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SEGA



CONFIDENTIAL MISSION 50" STANDARD

Owner's Manual



SEGA ENTERPRISES, INC. USA

MANUAL NO. 4201-6601-01

Warranty

Your new Sega Product is covered for a period of 90 days from the date of shipment. This certifies that the Printed Circuit Boards, Power Supplies and Monitor are to be free of defects in workmanship or materials under normal operating conditions. This also certifies that all Interactive Control Assemblies are to be free from defects in workmanship and materials under normal operating conditions. No other product in this machine is hereby covered.

Sellers sole liability in the event a warranted part described above fails shall be, at its option, to replace or repair the defective part during the warranty period. For Warranty claims, contact your Sega Distributor.

Should the Seller determine, by inspection that the product was caused by Accident, Misuse, Neglect, Alteration, Improper Repair, Installation or Testing, the warranty offered will be null and void.

Under no circumstances is the Seller responsible for any loss of profits, loss of use, or other damages.

This shall be the exclusive written Warranty of the original purchaser expressed in lieu of all other warranties expressed or implied. Under no circumstance shall it extend beyond the period of time listed above.

BEFORE USING THE PRODUCT, BE SURE TO READ THE FOLLOWING:

To maintain the safety:

To ensure the safe usage of the product, be sure to read the following before using the product. The following instructions are intended for the users, operators and the personnel in charge of the operation of the product. After carefully reading and sufficiently understanding the warning displays and cautions, handle the product appropriately. Be sure to keep this manual nearby the product or elsewhere convenient for referring to it when necessary.

Herein, explanations which require special attention are enclosed with dual lines. Depending on the potentially hazardous degrees, the terms of WARNING, CAUTION, etc. are used. Be sure to understand the contents of the displays before reading the text.



WARNING!

Indicates that mishandling the product by disregarding this warning will cause a potentially hazardous situation which can result in death or serious injury.



CAUTION!

Indicates that mishandling the product by disregarding this caution will cause a slight hazardous situation which can result in personal injury and or material damage.

For the safe usage of the product, the following pictographs are used:



Indicates “HANDLE WITH CARE.” In order to protect the human body and equipment, this display is attached to places where the Owner’s Manual and or Service Manual should be referred to.

○ Perform work in accordance with the instructions herein stated.

Instructions for work are explained by paying attention to the aspect of accident prevention. Failing to perform work as per the instructions can cause accidents. In the case where only those who have technical expertise should perform the work to avoid hazardous situation, the instructions herein state that the serviceman should perform such work.

○ Be sure to turn off power before working on the machine.

To prevent electric shock, be sure to turn off power before starting the work in which the worker touches the interior of the product. If the work is to be performed in the power-on status, the Instruction Manual herein always states to that effect.

○ Be sure to ground the Earth Terminal (this, however, is not required in the case where a power cord with earth is used).

This product is equipped with the Earth Terminal. When installing the product, Connect the Earth Terminal to the “accurately grounded indoor earth terminal” by using an earth wire. Unless the product is grounded appropriately, the user can be subject to electric shock. After performing repair, etc. for the Control equipment, ensure that the Earth Wire is firmly connected to the Control equipment.

○ Ensure that the Power Supply used is equipped with an Earth Leakage Breaker.

This product does not incorporate the Earth Leakage Breaker. Using a power supply which is not equipped with the Earth Leakage Breaker can cause a fire when earth leakage occurs.

○ Be sure to use fuses which meet the specified rating. (only for the machines which use fuses).

Using fuses exceeding the specified rating can cause a fire and electric shock.

- **Specification changes (removal of equipment, conversion and addition) not designated by SEGA are not allowed.**

The parts of the product include warning labels for safety, covers for personal protection, etc. It is very hazardous to operate the product by removing parts and or modifying the circuits. Should doors, lids and protective parts be damaged or lost, refrain from operating the product, and contact where the product was purchased from or the office herein stated. SEGA shall not be held responsible for any accidents, compensation for damage to a third party, resulting from the specifications not designated by SEGA.

- **Ensure that the product meets the requirements of appropriate Electrical Specifications.**
Before installing the product, check for Electrical Specifications. SEGA products have a nameplate on which Electrical Specifications are described. Ensure that the product is compatible with the power supply voltage and frequency requirements of the location. Using any Electrical Specifications different from the designated Specifications can cause a fire and electric shock.

- **Install and operate the product in places where appropriate lighting is available, allowing warning labels to be clearly read.**

To ensure safety for the customers, labels and printed instructions describing potentially hazardous situation are applied to places where accidents can be caused. Ensure that where the product is operated has sufficient lighting allowing the warnings to be read. If any label is peeled off, apply it again immediately. Please place an order with where the product was purchased from or the office herein stated.

- **When handling the Monitor, be very careful. (Applies only to the product w/monitor.)**
Some of the monitor (TV) parts are subject to high tension voltage. Even after running off power, some portions are still subject to high tension voltage sometimes. Monitor repair and replacement should be performed only by those technical personnel who have knowledge of electricity and technical expertise.

- **Be sure to adjust the monitor (projector) properly. (Applies only to the product w/monitor.)**
Do not operate the product leaving on-screen flickering or blurring as it is. Using the product with the monitor not properly adjusted may cause dizziness or a headache to an operator, a player, or the customers.

- **When transporting or reselling this product, be sure to attach this manual to the product.**
In the case where commercially available monitors and printers are used in this product, only the contents relating to this product are explained herein. Some commercially available equipment has functions and reactions not stated in this manual. Read this manual together with the specific Instruction Manual of such equipment.

- Descriptions herein contained may be subject to improvement changes without notice.
- The contents described herein are fully prepared with due care. However, should any question arise or errors be found, please contact SEGA.

INSPECTIONS IMMEDIATELY AFTER TRANSPORTING THE PRODUCT TO THE LOCATION.

Normally, at the time of shipment, SEGA products are in a status allowing for usage immediately after transporting to the location. Nevertheless, an irregular situation may occur during transportation. Before turning on power, check the following points to ensure that the product has been transported in a satisfactory status.

- ☐ Are there any dented portions or defects (cuts, etc.) on the external surfaces of the cabinet?
- ☐ Are Casters and Adjusters, damaged?
- ☐ Do the power supply voltage and frequency requirements meet with those of the location?
- ☐ Are all wiring connectors correctly and securely connected? Unless connected in the correct direction, connector connections can not be made accurately. Do not insert connectors forcibly.
- ☐ Do power cords have cuts and dents?
- ☐ Do the fuses used meet specified rating? Is the Circuit Protector in an energized status?
- ☐ Are all accessories available?
- ☐ Can all Doors and Lids be opened with the Accessory keys? Can Doors and Lids be firmly closed?

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BEFORE USING THE PRODUCT, BE SURE TO READ THE FOLLOWING:

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SPECIFICATIONS

Installation space	: 1,140 mm (W) X 1,734 mm (D) (44.9 in. X 68.3 in.)
Height	: 2,248 mm (88.5 in.)
Weight	: 247 kg. (544.5 lbs.)
Power, maximum current	: 400 W 4.68 A (AC 110V 50 Hz AREA) 395 W 4.70 A (AC 110V 60 Hz AREA) 390 W 4.18 A (AC 120V 60 Hz AREA) 410 W 2.35 A (AC 220V 50 Hz AREA) 400 W 2.27 A (AC 220V 60 Hz AREA) 410 W 2.20 A (AC 230V 50 Hz AREA) 400 W 2.16 A (AC 230V 60 Hz AREA) 410 W 2.13 A (AC 240V 50 Hz AREA) 400 W 2.11 A (AC 240V 60 Hz AREA)
For TAIWAN (TOSHIBA PROJECTION DISPLAY TYPE)	
Power, current	: 394 W 4.70A (MAX.) 258 W 3.30A (MIN.)
For TAIWAN (MITSUBISHI PROJECTION DISPLAY TYPE)	
Power, current	: 390 W 4.34A (MAX.) 248 W 2.73A (MIN.)
MONITOR	: 50 TYPE PROJECTION DISPLAY

INTRODUCTION OF THE OWNERS MANUAL

This Owner's Manual is intended to provide detailed descriptions together with all the necessary information covering the general operation of electronic assemblies, electromechanicals, servicing control, spare parts, etc. as regards the product, **CONFIDENTIAL MISSION STD.**

This manual is intended for the owners, personnel and managers in charge of operation of the product. Operate the product after carefully reading and sufficiently understanding the instructions. If the product fails to function satisfactorily, non-technical personnel should under no circumstances touch the internal system. Please contact where the product was purchased from.

Use of this product is unlikely to cause physical injuries or damages to property. However, where special attention is required this is indicated by a thick line, the word "IMPORTANT" and its sign in this manual.



IMPORTANT

Indicates that mishandling the product by disregarding this display can cause the product's intrinsic performance not to be obtained, resulting in malfunctioning.

SEGA ENTERPRISES, INC. (U.S.A.)/CUSTOMER SERVICE
45133 Industrial Drive, Fremont, California 94538, U.S.A.

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DEFINITION OF LOCATION MAINTENANCE MAN AND SERVICEMAN



Non-technical personnel who do not have technical knowledge and expertise should refrain from performing such work that this manual requires the location's maintenance man or a serviceman to carry out, or work which is not explained in this manual. Failing to comply with this instruction can cause a severe accident such as electric shock.

Ensure that parts replacement, servicing & inspections, and troubleshooting are performed by the location's maintenance man or the serviceman. It is instructed herein that particularly hazardous work should be performed by the serviceman who has technical expertise and knowledge.

The location's maintenance man and serviceman are herein defined as follows:

"Location's Maintenance Man" :

Those who have experience in the maintenance of amusement equipment and vending machines, etc., and also participate in the servicing and control of the equipment through such routine work as equipment assembly and installation, servicing and inspections, replacement of units and consumables, etc. within the Amusement Facilities and or locations under the management of the Owner and Owner's Operators of the product.

Activities of Location's Maintenance Man :

Assembly & installation, servicing & inspections, and replacement of units & consumables as regards amusement equipment, vending machines, etc.

Serviceman :

Those who participate in the designing, manufacturing, inspections and maintenance service of the equipment at an amusement equipment manufacturer.

Those who have technical expertise equivalent to that of technical high school graduates as regards electricity, electronics and or mechanical engineering, and daily take part in the servicing & control and repair of amusement equipment.

Serviceman's Activities :

Assembly & installation and repair & adjustments of electrical, electronic and mechanical parts of amusement equipment and vending machines.

1. HANDLING PRECAUTIONS

When installing or inspecting the machine, be very careful of the following points and pay attention to ensure that the player can enjoy the game safely.

Non-compliance with the following points or inappropriate handling running counter to the cautionary matters herein stated can cause personal injury or damage to the machine.



- Before performing work, be sure to turn power off. Performing the work without turning power off can cause an electric shock or short circuit. In the case work should be performed in the status of power on, this manual always states to that effect.
- To avoid electric shock or short circuit, do not plug in or unplug quickly.
- To avoid electric shock, do not plug in or unplug with a wet hand.
- Do not expose Power Cords and Earth Wires on the surface, (floor, passage, etc.). If exposed, the Power Cords and Earth Wires are susceptible to damage. Damaged cords and wires can cause electric shock or short circuit.
- To avoid causing a fire or electric shock, do not put things on or damage Power Cords.
- When or after installing the product, do not unnecessarily pull the power cord. If damaged, the power cord can cause a fire or electric shock.
- In case the power cord is damaged, ask for replacement through where the product was purchased from or the office herein stated. Using the cord as is damaged can cause fire, electric shock or leakage.
- Be sure to perform grounding appropriately. Inappropriate grounding can cause an electric shock.
- Be sure to use fuses meeting specified rating. Using fuses exceeding the specified rating can cause a fire or electric shock.
- Completely make connector connections for IC BD and others. Insufficient insertion can cause an electric shock.
- Specification changes, removal of equipment, conversion and/or addition, not designated by SEGA are not permitted.
 - Failure to observe this may cause a fire or an electric shock. Non-compliance with this instruction can have a bad influence upon physical conditions of the players or the lookers-on, or result in injury during play.
 - SEGA shall not be held responsible for damage, compensation for damage to a third party, caused by specification changes not designated by SEGA.
- Be sure to perform periodic maintenance inspections herein stated.



- For the IC board circuit inspections, only the logic tester is allowed. The use of a multiple-purpose tester is not permitted, so be careful in this regard.
- The Projector is employed for this machine. The Projector's screen is susceptible to damage, therefore, be very careful when cleaning the screen. For details, refer to PROJECTOR.

2. PRECAUTIONS CONCERNING INSTALLATION

LOCATION



WARNING!

This product is an indoor game machine. Do not install it outside. Even indoors, avoid installing in places mentioned below so as not to cause a fire, electric shock, injury and or malfunctioning.

- Places subject to rain or water leakage, or places subject to high humidity in the proximity of an indoor swimming pool and or shower, etc.
- Places subject to direct sunlight, or places subject to high temperatures in the proximity of heating units, etc.
- Places filled with inflammable gas or vicinity of highly inflammable/volatile chemicals or hazardous matter.
- Dusty places.
- Sloped surfaces.
- Places subject to any type of violent impact.
- Vicinity of anti-disaster facilities such as fire exits and fire extinguishers.
- The operating (ambient) temperature range is from 5 Celsius to 40 Celsius. Only in the case a projector is employed, the temperature range is from 5 Celsius to 30 Celsius.

LIMITATIONS OF USAGE REQUIREMENTS



WARNING!

- Be sure to check the Electrical Specifications.
Ensure that this product is compatible with the location's power supply, voltage and frequency requirements.
A plate describing Electrical Specifications is attached to the product.
Non-compliance with the Electrical Specifications can cause a fire and electric shock.
- This product requires the Breaker and Earth Mechanisms as part of the location facilities. Using them in a manner not independent can cause a fire and electric shock.
- Ensure that the indoor wiring for the power supply is rated at 15A or higher (AC single phase 100 ~ 120V area), and 7A or higher (AC 220 ~ 240V area). Non-compliance with the Electrical Specifications can cause a fire and electric shock.
- Be sure to independently use the power supply equipped with the Earth Leakage Breaker. Using a power supply without the Earth Leakage Breaker can cause an outbreak of fire when earth leakage occurs.
- Putting many loads on one electrical outlet can cause generation of heat and a fire resulting from overload.
- When using an extension cord, ensure that the cord is rated at 15A or higher (AC 100 ~ 120V area) and 7A or higher (AC 220 ~ 240V area). Using a cord rated lower than the specified rating can cause a fire and electric shock.

OPERATION AREA



- For the operation of this machine, secure a minimum area of 1.4m (W) X 2.54m (D). In order to prevent injury resulting from the falling down accident during game play, be sure to secure the minimum area for operation.
- Be sure to provide sufficient space so as to allow this product's ventilation fan to function efficiently. To avoid machine malfunctioning and a fire, do not place any obstacles near the ventilation opening.
- SEGA shall not be held responsible for damage, compensation for damage to a third party, resulting from the failure to observe this instruction.



For transporting the machine into the location's building, the minimum necessary dimensions of the opening (of doors, etc.) are 1m(W) and 1.7m(H).

Electric current consumption

MAX. 4.68 A (AC 110V 50 Hz)
 MAX. 4.70 A (AC 110V 60 Hz)
 MAX. 4.18 A (AC 120V 60 Hz)
 MAX. 2.35 A (AC 220V 50 Hz)
 MAX. 2.27 A (AC 220V 60 Hz)
 MAX. 2.20 A (AC 230V 50 Hz)
 MAX. 2.16 A (AC 230V 60 Hz)
 MAX. 2.13 A (AC 240V 50 Hz)
 MAX. 2.11 A (AC 240V 60 Hz)
 MAX. 4.70 A (For TAIWAN,
 TOSHIBA projection display)
 MAX. 4.34 A (For TAIWAN,
 MITSUBISHI projection display)

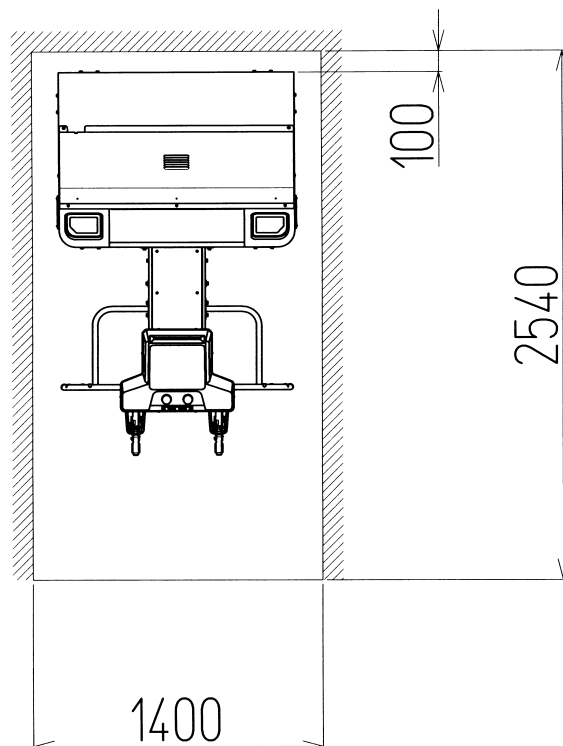


FIG. 2

3. OPERATION

PRECAUTIONS TO BE HEEDED BEFORE STARTING THE OPERATION

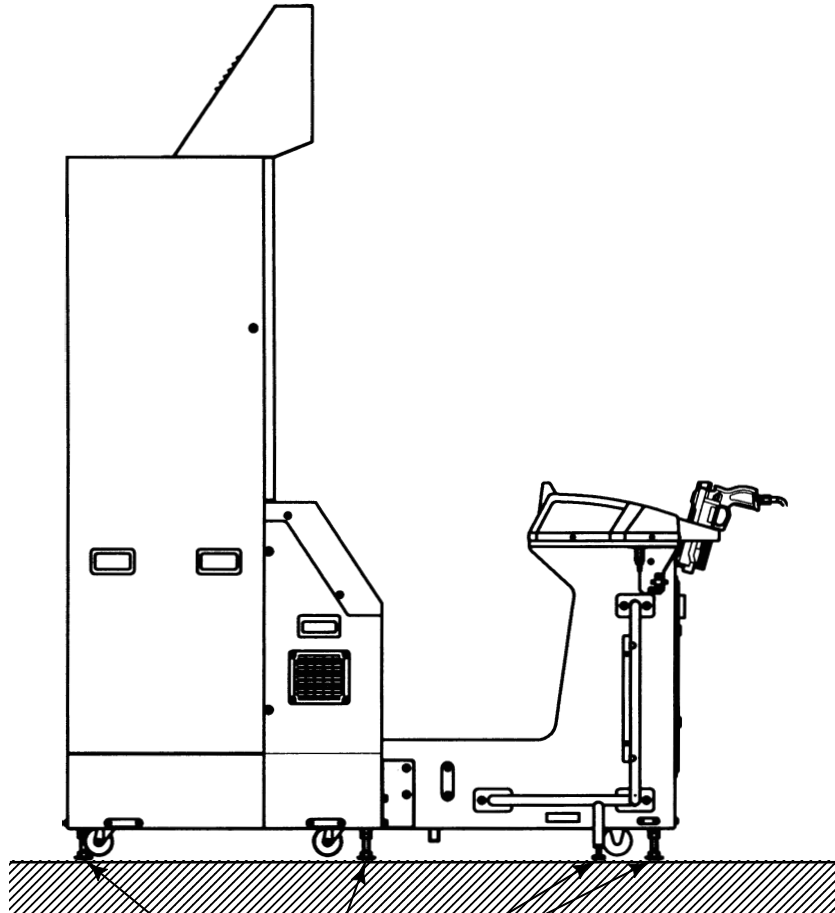
To avoid injury and trouble, be sure to constantly give careful attention to the behavior and manner of the visitors and players.



WARNING!

In order to avoid accidents, check the following before starting the operation:

- To ensure maximum safety for the players and the customers, ensure that where the product is operated has sufficient lighting to allow any warnings to be read. Operation under insufficient lighting can cause bodily contact with each other, hitting accident, and or trouble between customers.
- Be sure to perform appropriate adjustment of the monitor (projector). For operation of this machine, do not leave monitor's flickering or deviation as is. Failure to observe this can have a bad influence upon the players' or the customers' physical conditions.
- It is suggested to ensure a space allowing the players who feel sick while playing the game to take a rest.
- Check if all of the adjusters are in contact with the surface. If they are not, the Cabinet can move and cause an accident.



Ensure that all of the
Adjusters are in contact
with the floor.



- Do not put any heavy item on this product. Placing any heavy item on the product can cause a falling down accident or parts damage.
- Do not climb on the product. Climbing on the product can cause falling down accidents. To check the top portion of the product, use a step.
- To avoid electric shock, check to see if door & cover parts are damaged or omitted.
- To avoid electric shock, short circuit and or parts damage, do not put the following items on or in the periphery of the product.
Flower vases, flowerpots, cups, water tanks, cosmetics, and receptacles/
containers/vessels containing chemicals and water.



To avoid injury, be sure to provide sufficient space by considering the potentially crowded situation at the installation location. Insufficient installation space can cause making bodily contact with each other, hitting accidents, and or trouble between customers.



Players with bare hands directly hold the maracas. For operation, it is recommended that the wet towels (paper towels) be provided.

PRECAUTIONS TO BE HEEDED DURING OPERATION (PAYING ATTENTION TO CUSTOMERS)

To avoid injury and trouble, be sure to constantly give careful attention to the behavior and manner of the visitors and players.



- To avoid injury and accidents, those who fall under the following categories are not allowed to play the game.
 - Those who need assistance such as the use of an apparatus when walking.
 - Those who have high blood pressure or a heart problem.
 - Those who have experienced muscle convulsion or loss of consciousness when playing video game, etc.
 - Those who have a trouble in the neck and or spinal cord.
 - Intoxicated persons.
 - Pregnant women or those who are in the likelihood of pregnancy.
 - Persons susceptible to motion sickness.
 - Persons whose act runs counter to the product's warning displays.
- A player who has never been adversely affected by light stimulus might experience dizziness or headache depending on his physical condition when playing the game. Especially, small children can be subject to those conditions. Caution guardians of small children to keep watch on their children during play.
- Instruct those who feel sick during play to have a medical examination.
- To avoid injury resulting from falling down and electric shock due to spilled drinks, instruct the player not to place heavy items or drinks on the product.
- To avoid electric shock and short circuit, do not allow customers to put hands and fingers or extraneous matter in the openings of the product or small openings in or around the doors.
- To avoid falling down and injury resulting from falling down, immediately stop the customer's leaning against or climbing on the product, etc.
- To avoid electric shock and short circuit, do not allow the customers to unplug the power plug without a justifiable reason.



Immediately stop such violent acts as hitting and kicking the product. Such violent acts can cause parts damage or falling down, resulting in injury due to fragments and falling down.

4. NAME OF PARTS

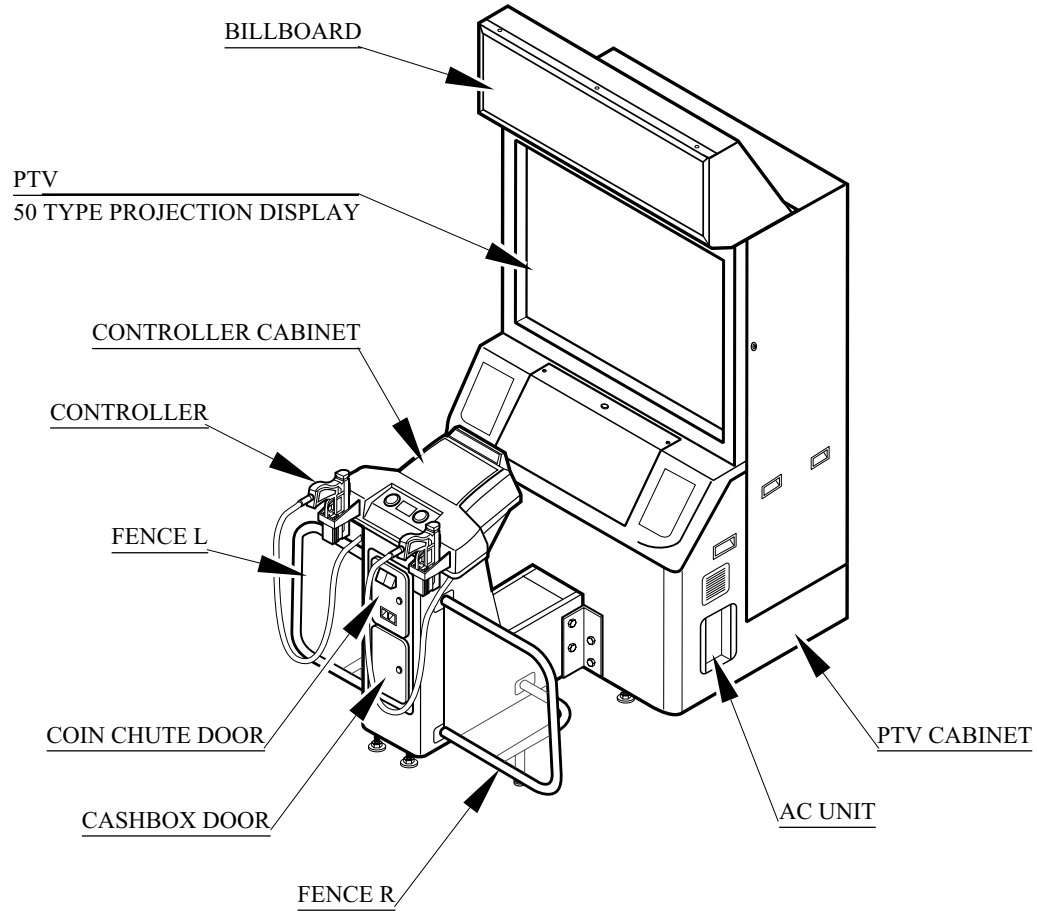


FIG. 4

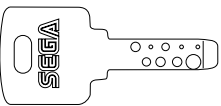
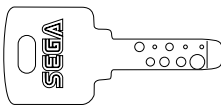
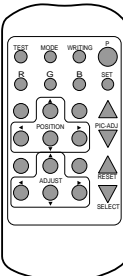
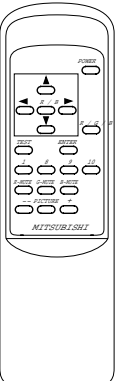
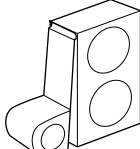

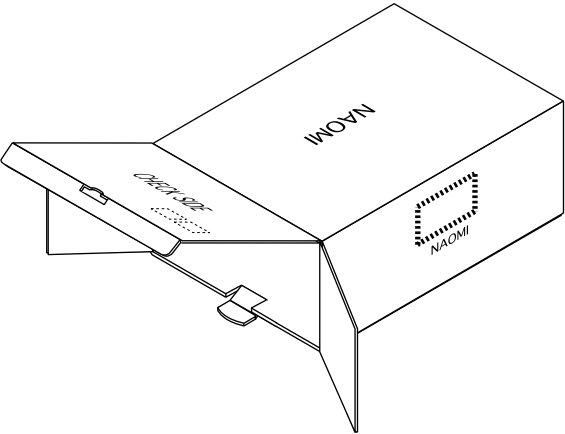
TABLE 4

	Width	X	Length	X	Height	Weight
PTV	1,140 mm	X	551 mm	X	1,670 mm	110 kg
PTV CABINET	1,140 mm	X	839 mm	X	935 mm	74 kg
BILLBOARD	1,140 mm	X	400 mm	X	400 mm	19 kg
CONTROLLER CABINET	550 mm	X	925 mm	X	987 mm	37 kg
FENCE(one side)	423 mm	X	477 mm	X	690 mm	3.4 kg
When assembled	1,140 mm	X	1,734 mm	X	2,248 mm	247 kg

5. ACCESSORIES

When transporting the machine, make sure that the following parts are supplied.

TABLE 5 a ACCESSORIES

<p>DESCRIPTION</p> <p>OWNERS MANUAL</p> <p>Part No. (Qty.) 420-6601-01 (1)</p> <p>Note</p> <p>Figures</p> <p>If Part No. has no description, the Number has not been registered or can not be registered. Such a part may not be obtainable even if the customer desires to purchase it. Therefore, ensure that the part is in safekeeping with you.</p>	<p>KEY MASTER</p> <p>220-5576 (2)</p> <p>For opening/closing the doors</p>	<p>KEY</p> <p>(2)</p> <p>For the CASHBOX DOOR</p>
<p>GD-ROM SERVICE MANUAL ENG</p> <p>420-6620-01 (1)</p> <p>INSTRUCTION MANUAL FOR THE GAME BOARD AND GD-ROM</p>		
<p>TOSHIBA</p> <p>Remote Controller used for adjustment of the projector.</p> <p>See Section 12.</p> <p>200-5536(1)</p>	<p>MITSUBISHI</p> <p>Remote Controller used for adjustment of the projector.</p> <p>See Section 12.</p> <p>200-5532(1)</p>	<p>SW MICRO TYPE</p> <p>509-5080 (1)</p> <p>Spare, see Section 10.</p>
		
<p>One of the above 2 types of Remote Controllers is used for the Projector.</p> <p>The Remote Controller is attached to the Projector at the time of shipment.</p>		
<p>LAMP WEDGE 6V 3W</p> <p>390-5160 (1)</p> <p>Spare, see Section 13.</p>	<p>CARTON BOX</p> <p>601-10532 (1)</p> <p>Used for transporting the Game Board.</p> <p>See FIG. 5 a.</p>	
		

HOW TO USE THE CARTON BOX



When requesting for the replacement/repair of this product's Game Board (NAOMI BOARD), follow the instructions below. Transporting the Game Board in an undesignated status is unacceptable. An erroneous handling can cause parts damage.

- Put the Game Board in the Carton Box together with the Shield Case. Do not unnecessarily disassemble nor remove parts.
- By paying careful attention to the following Figure and the direction shown by on-Carton-Box printing, put the Shield Case in the Carton Box.
- When putting the Shield Case in the Carton Box, do not remove Leg Brackets.
- The projected portions of the packing material is intended for cushioning. Therefore, do not bend the projected portions.
- Do not remove the DIMM board without fail.

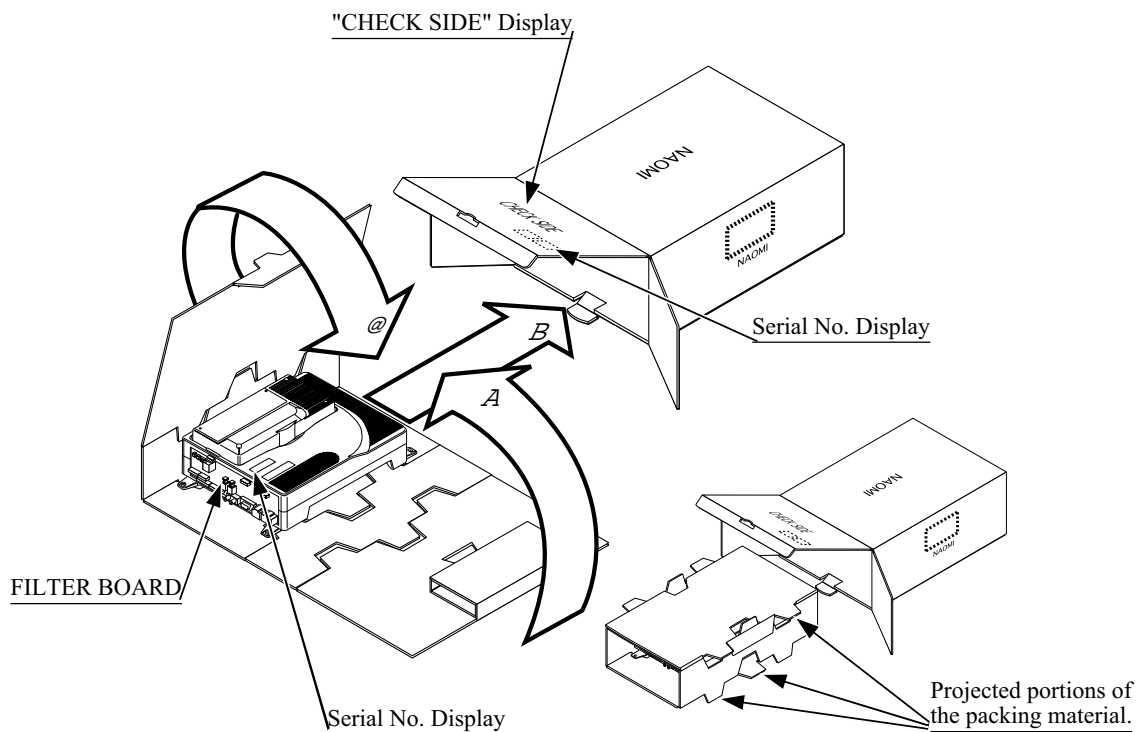


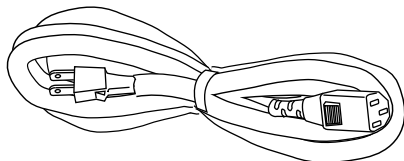
FIG. 5 a

Fold the packing material in the sequential order of the numbers shown in the Figure, enfold the Shield Case and put it in the Carton Box. Positioning the Shield Case upside down or packing in the manner different from what is shown in this Figure can cause the Game Board and other parts to be damaged.

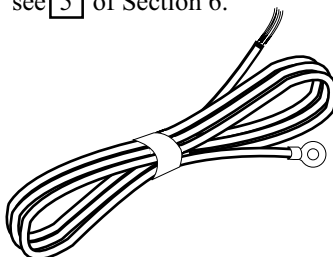
The following Table 5b lists the parts that had been separately packed when the product was shipped from the factory but are necessary when you use the product. These parts will be mounted on the product when installing and assembling it.

TABLE 5 b

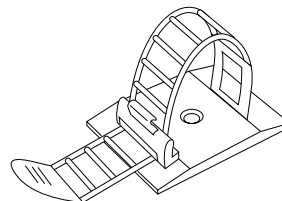
AC Cable (Power Cord)
600-6729 (1) TAIWAN
600-6618 (1) OTHERS
600-6619 (1) HONG KONG
600-6695 (1) USA
Used for installation,
see **5** of Section 6.



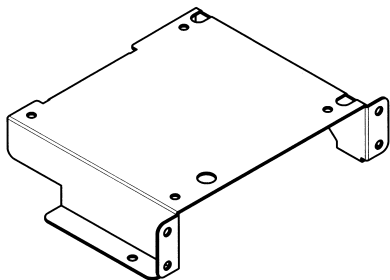
WIRE HARN EARTH W/LUG
M6
600-6664-02 (1)
For TAIWAN.
Used for installation,
see **5** of Section 6.



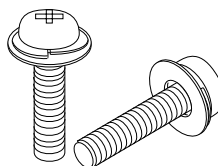
CORD CLAMP
280-5009-01 (1)
Used for securing the
power cord.
see **5** of Section 6.



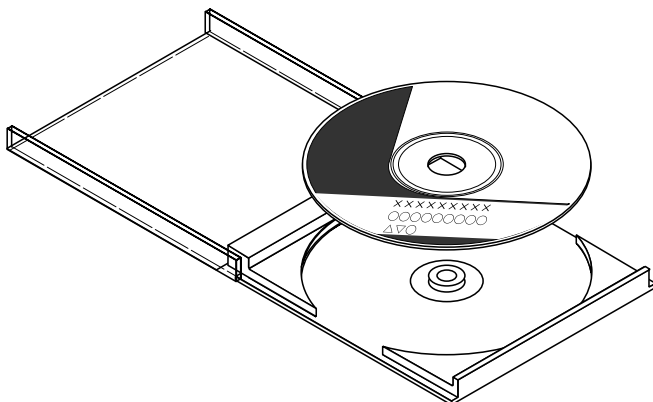
GD DRIVE BRACKET
105-5435 (1)
To be mounted on the GD-ROM drive.
see **3** of Section 6.



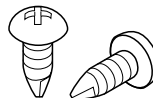
SCREW
000-P00416-W (4)
Used for securing the GD-ROM DRIVE.
see **3** of Section 6.



GD-ROM
610-0625-0001 (1)
Game software media contained in a plastic case.
see **3** of Section 6.



TAPPING SCREW
012-P00408 (4)
Used for securing the GD-ROM DRIVE.
see **3** of Section 6.



NOTE: A packing/shipping method of this product is specific with this CONFIDENTIAL MISSION STD TYPE product. It may be different from, therefore, the descriptions in the GD-ROM Service Manual.

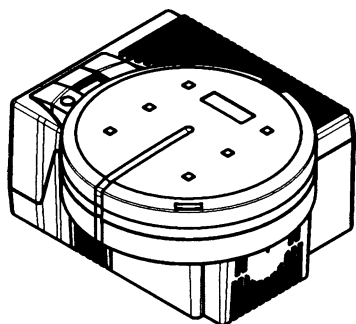
The following Table 5c lists the parts that are separately marketed but are necessary when booting this product's software. When having unpacked the shipping crate, make sure that all the parts in this Table 5C are in the crate. If not so, contact where you have obtained the product.

TABLE 5 c (XKT-0833 : GD-ROM DRIVE KIT)

GD-ROM DRIVE

610-0617 (1)

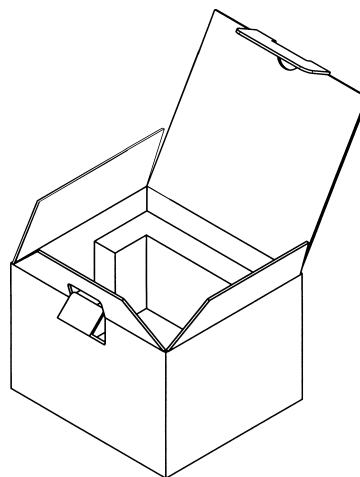
Device that loads the software in a GD-ROM disk.
see 3 of Section 6.



GD-ROM DRIVE CARTON BOX

(1)

Used for transporting the GD-ROM DRIVE.
See FIG. 5 b.



This carton box is a standard accessory of the GD-ROM drive. If you want to obtain the carton box itself separately, specify the part number 601-11031.

HOW TO USE THE CARTON BOX (GD-ROM DRIVE)



When you want to order for replacing or repairing service of the GD-ROM drive that is used by the product, pack it in a carton box as instructed below, and then deliver the carton box to a service agent. If you do not observe the instruction, your order may not be accepted or may be charged additionally. If you handle the GD-ROM drive differently from the following instructions, its components may be damaged.

- Contain the GD-ROM drive in a dedicated carton box. Do not disassemble it or remove any part from it unless otherwise instructed.
- Before containing the GD-ROM drive in a dedicated carton box, attach the GD-ROM drive lid (DISC LID) onto the drive and fix the lid with a screw.
- Before containing the GD-ROM drive in a dedicated carton box, remove the GD-ROM disk from the drive. Do not attempt to move the GD-ROM drive with a GD-ROM disk inside.
- Before containing the GD-ROM drive in a dedicated carton box, remove the GD-ROM drive bracket. Carefully keep the GD-ROM drive bracket and the 4 set screws, because they will be reused.
- When inserting the GD-ROM drive into a dedicated carton box, be careful about an inserting direction as illustrated below.
- The packing materials in a carton box are used as a cushion. Use them always when inserting the GD-ROM drive into a dedicated carton box. Do not bend them.

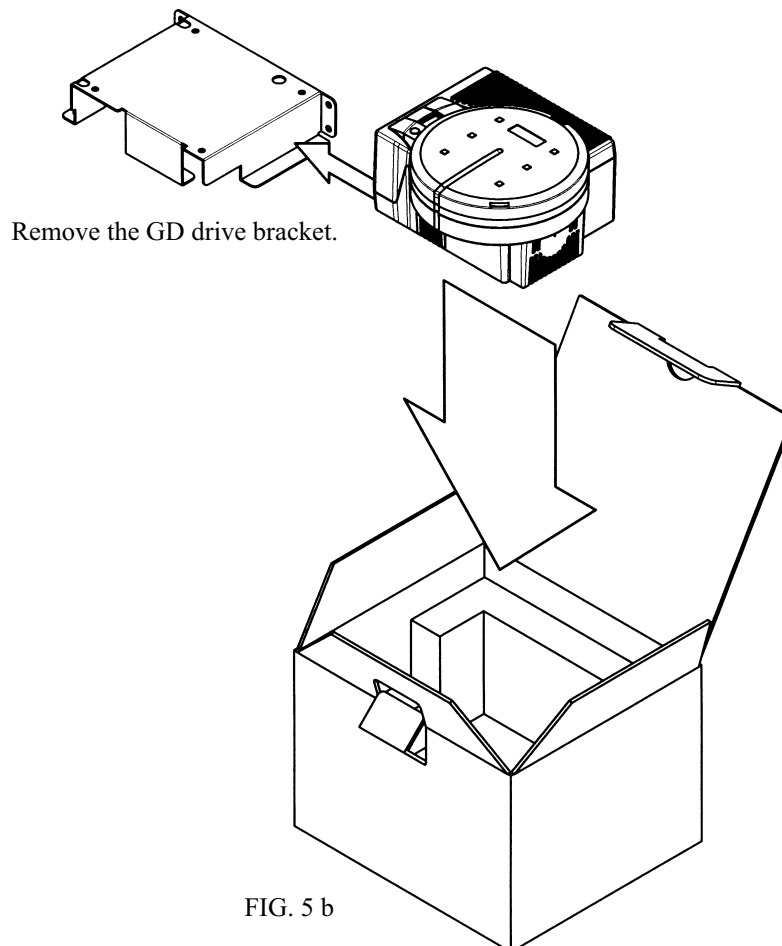


FIG. 5 b

6. ASSEMBLING AND INSTALLATION



- Perform assembly work by following the procedure herein stated. Failing to comply with the instructions can cause electric shock hazard.
- Perform assembling as per this manual. Since this is a complex machine, erroneous assembling can cause an electric shock, machine damage and or not functioning as per specified performance.
- When assembling, be sure to use plural persons. Depending on the assembly work, there are some cases in which working by one person alone can cause personal injury or parts damage.
- Ensure that connectors are accurately connected. Incomplete connections can cause electric shock hazard.
- Be careful so as not to damage wirings. Damaged wiring can cause electric shock and short circuit hazards.
- Do not carelessly push the PTV. Pushing the PTV carelessly can cause the PTV to fall down.
- This work should be performed by the Location's Maintenance Man or Serviceman. Performing work by non-technical personnel can cause a severe accident such as electric shock. Failing to comply with this instruction can cause a severe accident such as electric shock to the player during operation.
- Provide sufficient space so that assembling can be performed. Performing work in places with narrow space or low ceiling may cause an accident and assembly work to be difficult.
- To perform work safely and avoid serious accident such as the cabinet's falling down, do not perform work in places where step-like grade differences, a ditch, or slope exist.

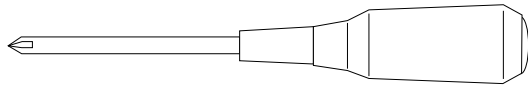


- When handling plastic parts, use care. Do not give a shock or apply excessive load to the fluorescent lamps and plastic parts. Failure to observe this can cause parts damage, resulting in injury due to fragments, cracks and broken pieces.
- To perform work safely and securely, be sure to prepare a step which is in a secure and stable condition. Performing work without using the step can cause violent falling down accidents.

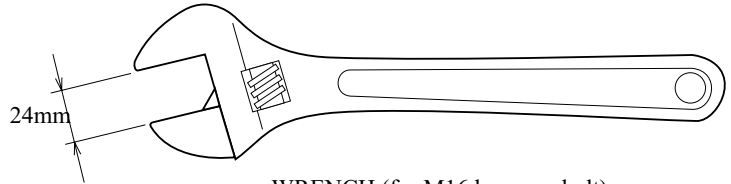
When carrying out the assembling and installation, follow the following 7-item sequence.

- 1 ASSEMBLING THE PTV
- 2 ASSEMBLING THE CABINET
- 3 SECURING IN PLACE (ADJUSTER ADJUSTMENT)
- 4 INSTALLING THE GD-ROM DRIVE (SETTING A GD-ROM DISK)
- 5 POWER SUPPLY, AND EARTH CONNECTION
- 6 TURNING POWER ON
- 7 ASSEMBLING CHECK

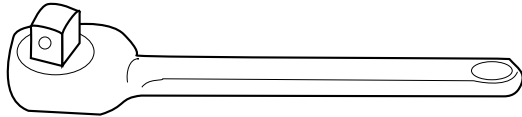
The master key (accessories) in addition to the tools such as a Phillips type screwdriver, wrench, socket wrench and Ratchet Handle are required for the assembly work.



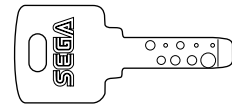
Phillips type screwdriver
(for M3,M4,M5 screw)



WRENCH (for M16 hexagon bolt)



SOCKET WRENCH,(for M8 hexagon bolt)
RATCHET HANDLE



KEY MASTER



ASSEMBLING THE PTV

- ① By using 2 Flat Head screws, secure the 2 Mask Bracket Uppers to the PTV ceiling.
- ② Secure the Mask Bracket Lower to the front of PTV with 4 screws.

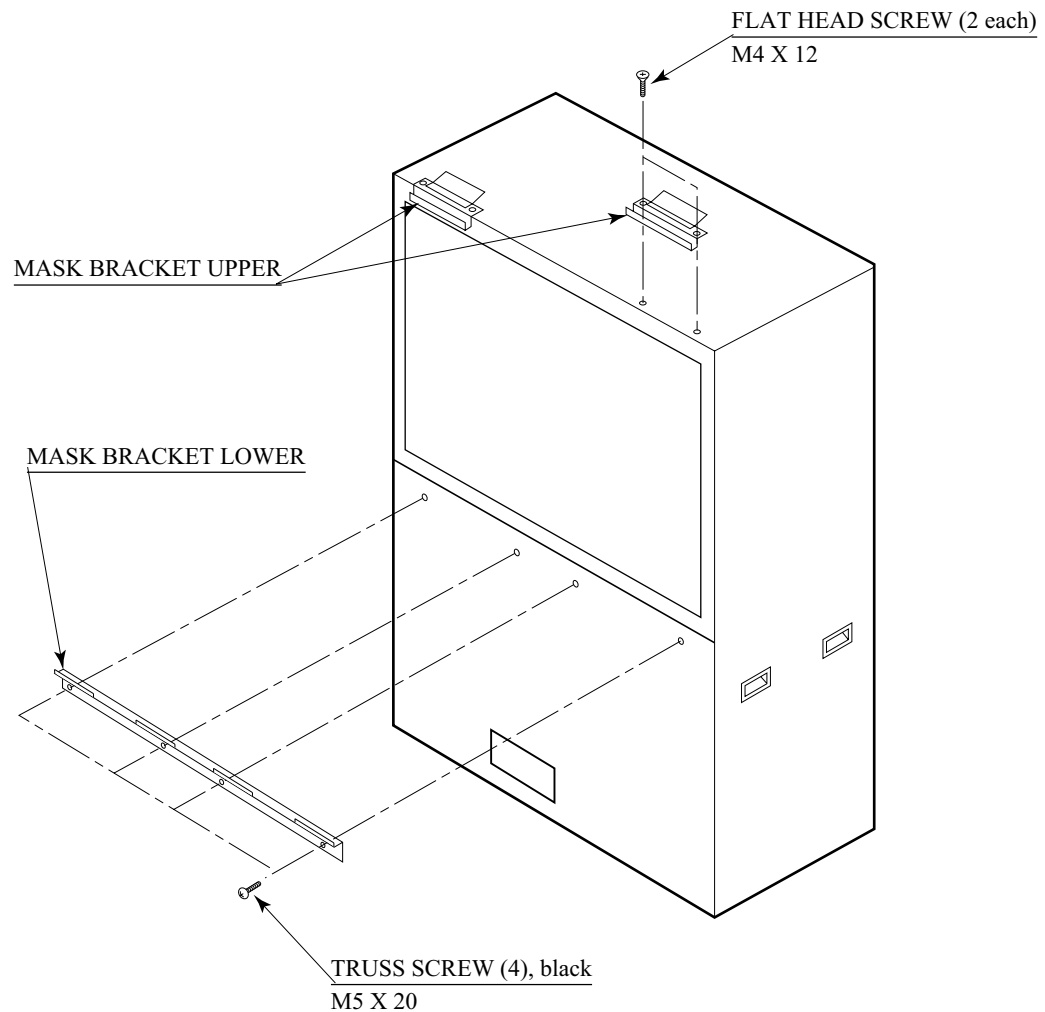


FIG. 6. 1 a

- ③ Install the Mask to the PTV front. Install the Mask in a manner hooking up to both 2 Mask Bracket Uppers and the Mask Bracket Lower. Simultaneously insert the projections of the Mask into the square holes in the PTV Screen left and right.
- ④ Secure the Mask by fastening a screw for each from both sides of PTV.

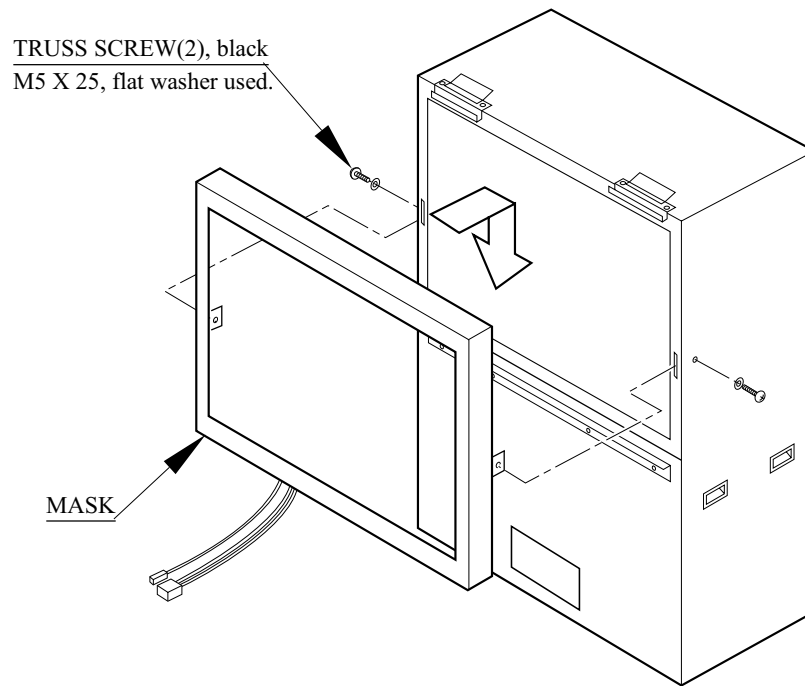


FIG. 6. 1 b

- ⑤ Secure the 2 PTV Holders to the PTV front with the 2 screws for each.

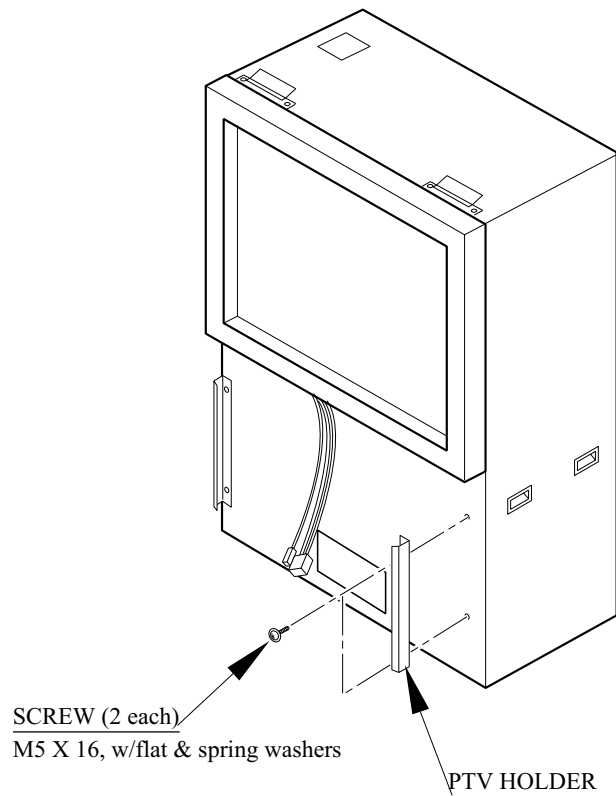


FIG. 6. 1 c

2

ASSEMBLING THE CABINET

- ① Move the PTV to the rear of the PTV Cabinet.
- ② Connect wiring between the PTV and the PTV Cabinet.

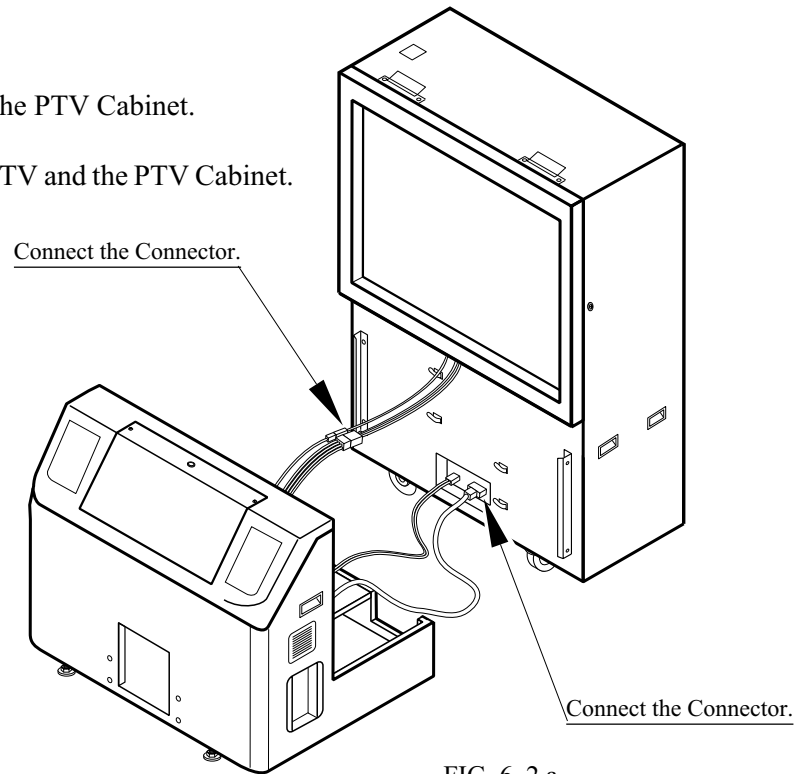


FIG. 6. 2 a

- ③ There are 4 cord clamps in the PTV front. By using the 4 cord clamps, secure the wiring as per the Figure. (FIG. 6. 2 b)
- ④ Mount the PTV onto the PTV Cabinet. Lift the PTV by 3 or more workers while another worker supporting the PTV Cabinet. Be careful so as not to damage wiring at this time.

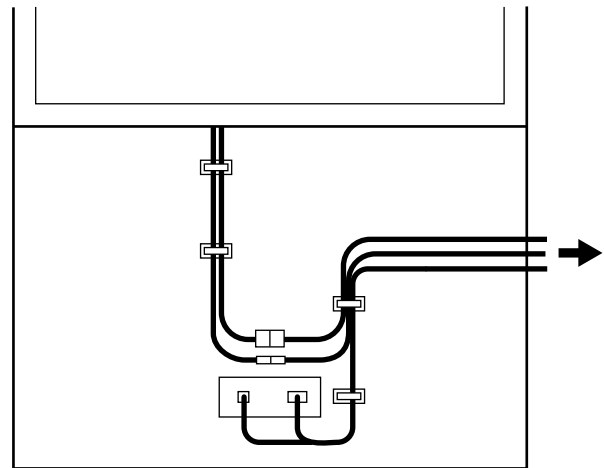


FIG. 6. 2 b

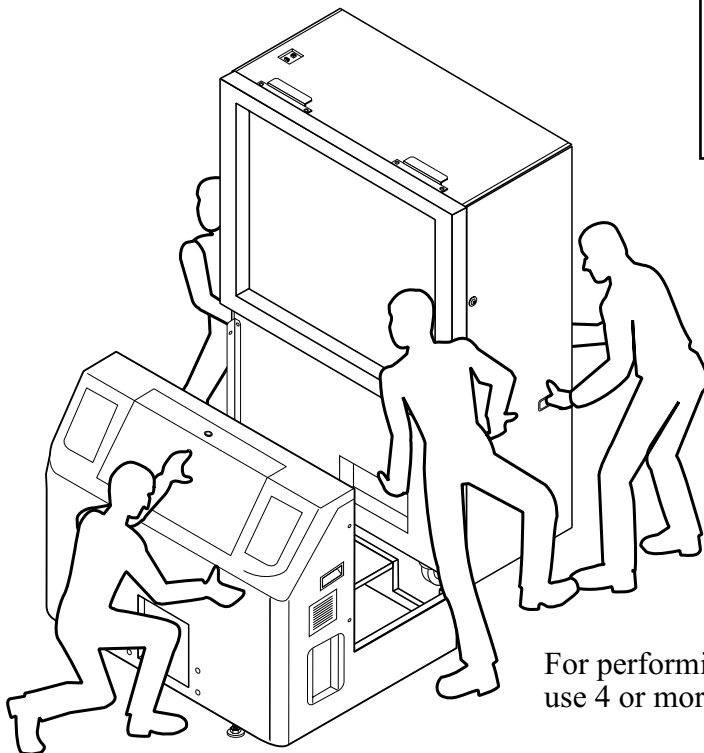


FIG. 6. 2 c

For performing work,
use 4 or more workers.

- ⑤ Secure the joining portion of the PTV and the PTV Cabinet with the 4 screws.

PTV

TRUSS SCREW (4)
M5 X 30, flat washer used.

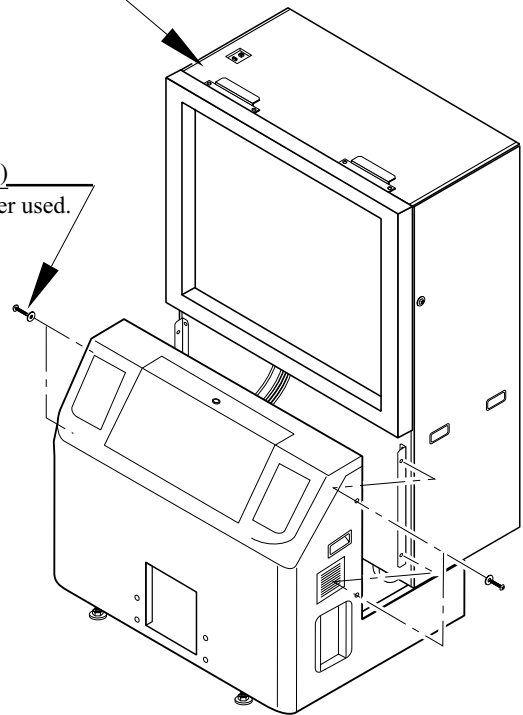


FIG. 6. 2 d

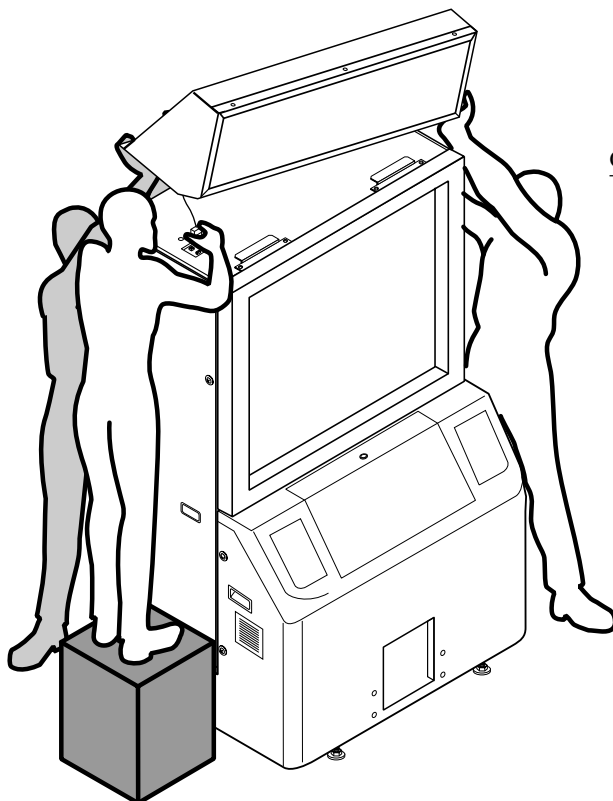
- ⑥ Connect a Billboard's connector to the terminal board on the PTV ceiling. While supporting the Billboard as is inclined, connect the connector. Be sure to use a step to connect the connector while 2 persons supporting the Billboard.

- ⑦ Insert the Billboard from the rear as shown and secure with the 2 screws. At this time, be sure to use a step.

SCREW (2)
M5 X 16, w/flat & spring washers

BILLBOARD

Connect the Connector.



For performing work,
prepare a step and use 3 or
more workers.

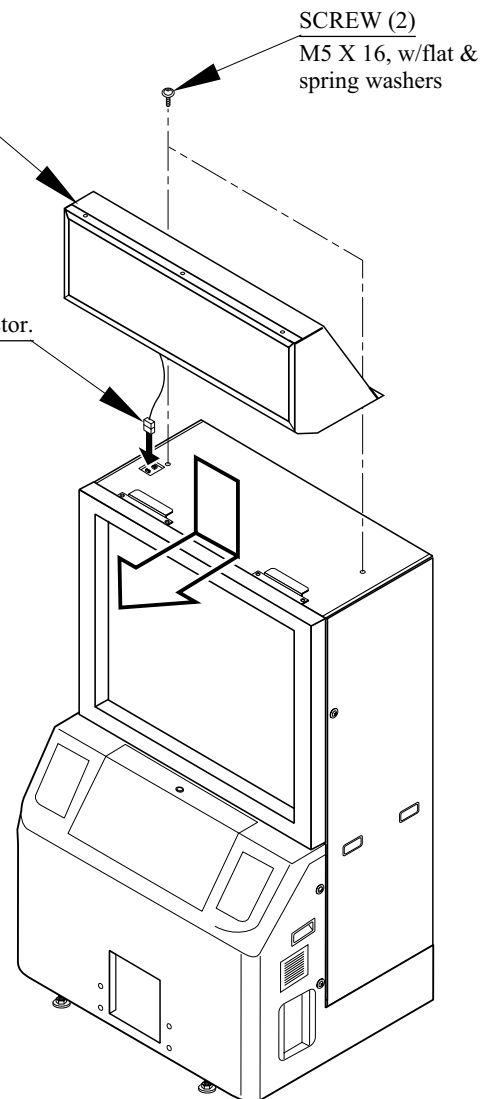


FIG. 6. 2 e

- ⑧ Install Fence L & R to CONTROLLER CABINET by using 6 Hexagon Bolts for each and 2 screws for each.

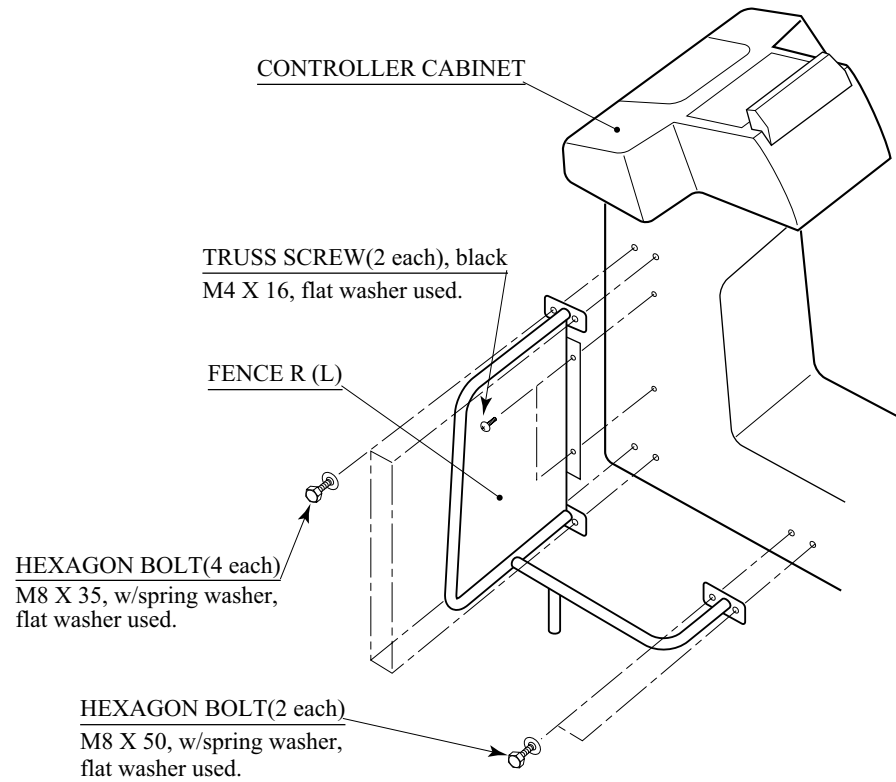


FIG. 6. 2 f

- ⑨ Move the controller cabinet nearer to the PTV cabinet.
- ⑩ Connect the wires between the controller cabinet and the PTV cabinet. Connect the 4 connectors.

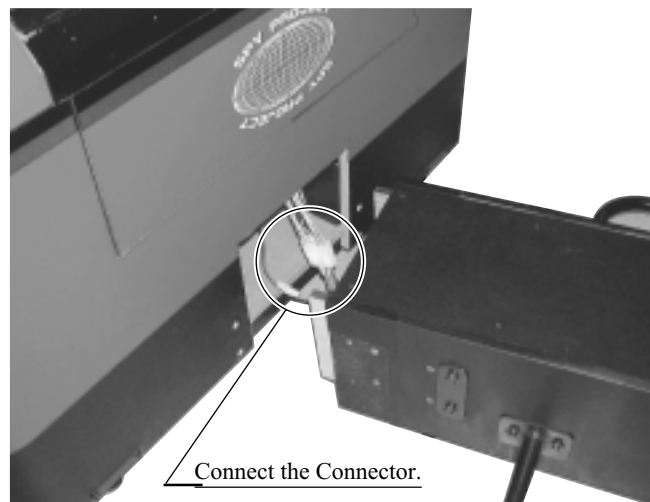


PHOTO 6. 2

- ⑪ Insert the controller cabinet into a square opening of the PTV cabinet. In this instance, be careful not to catch the wires in the cabinets.
- ⑫ Attach the joint bracket L and R onto the contacting surfaces of the controller cabinet and PTV cabinet. Carefully use the hexagon head screws because the ones for the former cabinet and the others for the latter cabinet are different in size from each other.

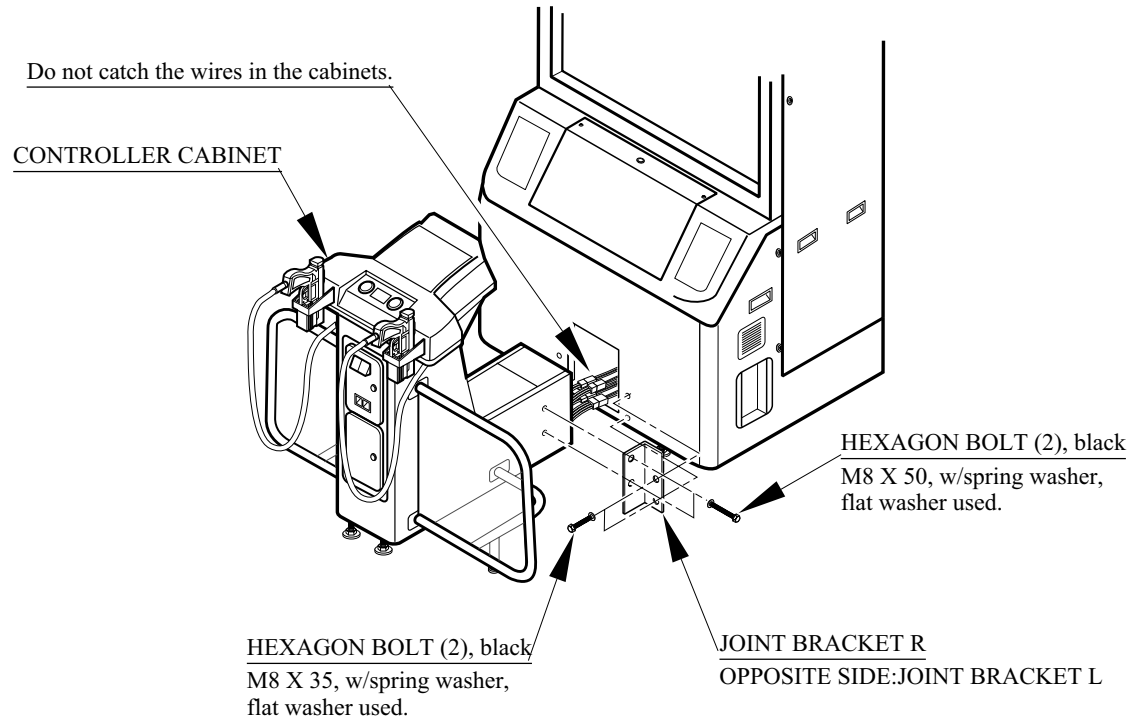


FIG. 6. 2 g

3

SECURING IN PLACE (ADJUSTER ADJUSTMENT)



WARNING!

Make sure that all of the adjusters are in contact with the floor. If they are not, the cabinet can move and cause an accident.

This product has 6 casters (4 for PTV Cabinet, 2 for CONTROLLER CABINET) and 8 Adjusters (4 for PTV Cabinet, 4 for CONTROLLER CABINET). (FIG. 6. 3a) When the installation position is determined, cause the adjusters to come into contact with the floor directly, make adjustments in a manner so that the casters will be raised approximately 5mm. from the floor and make sure that the machine position is level.

- ① Transport the product to the installation position.
- ② Have all of the Adjusters make contact with the floor. Adjust the Adjuster's height by using a wrench so that the machine position is kept level.
When contacting the adjusters of the right and left fences onto the floor, manually turn them.
- ③ After making adjustment, fasten the Adjuster Nut upward and secure the height of Adjuster (FIG. 6. 3 b).

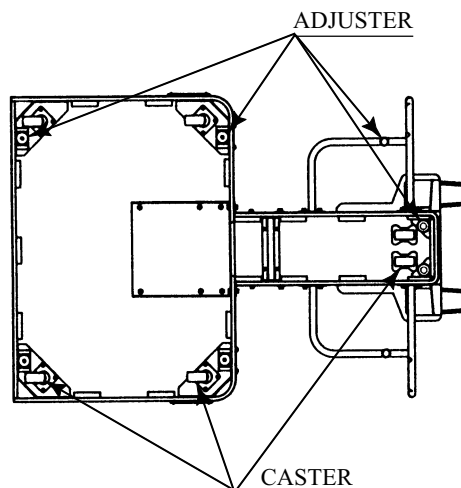


FIG. 6. 3 a BOTTOM VIEW

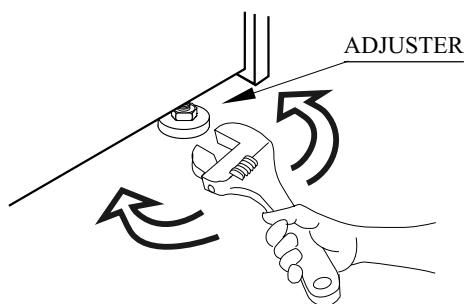


FIG. 6. 3 b ADJUSTER

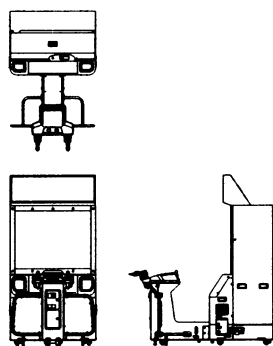
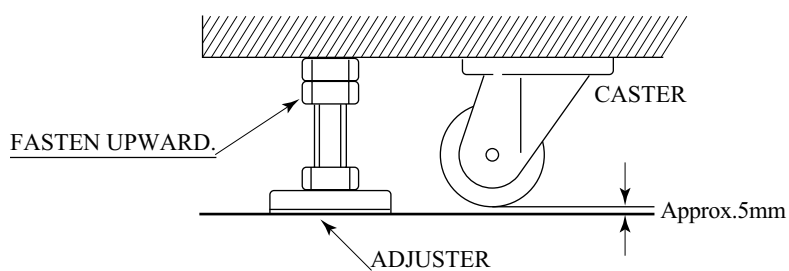


FIG. 6. 3 c

Refer to this Fig. (Scale:1/100)
for the layout of the place of
installation.

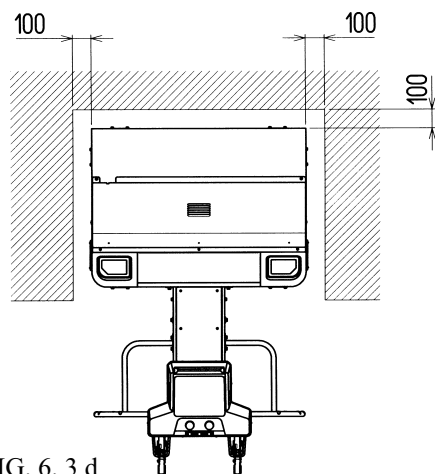


FIG. 6. 3 d

Provide ventilation space for the ventilation opening.

4

INSTALLING THE GD-ROM DRIVE (SETTING A GD-ROM DISK)



- Carefully handle the GD-ROM drive so as not to contaminate the disk and the readout lens with stains and dust particles.
- Do not continue to use the scratched GD-ROM disk. The scratched GD-ROM disk may cause the system to malfunction.
- Set the GD-ROM disk onto the GD-ROM drive with its labeled side facing upward.
- The GD-ROM drive Service Manual explains how to attach a key chip. With this product, however, the key chip has been attached before shipping.

This section explains how to remove the ASSY MAIN BD from the PTV cabinet, set the GD-ROM disk onto the GD-ROM drive, and install the GD-ROM drive onto the ASSY MAIN BD.

- ① Unpack the shipping crate, and take out the GD-ROM drive, GD-ROM drive bracket, and GD-ROM disk.



GD DRIVE BRACKET



GD-ROM DRIVE

PHOTO6. 4 a

- ② Use the 4 tapping screws to fix the GD-ROM drive bracket onto the GD-ROM drive. Be careful about a fixing direction.

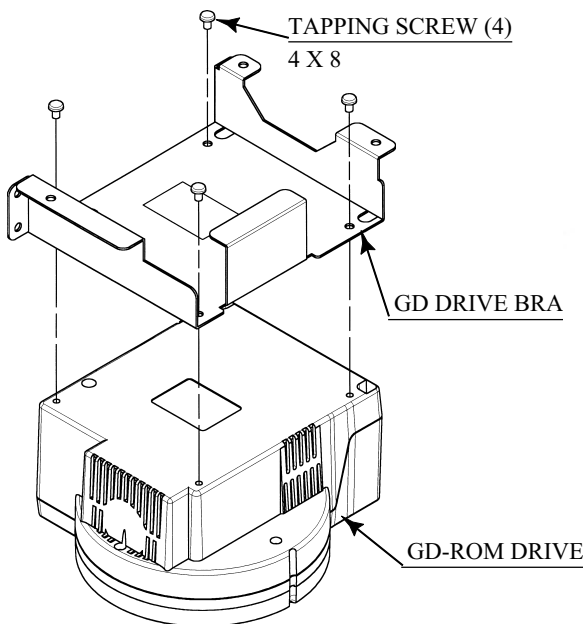
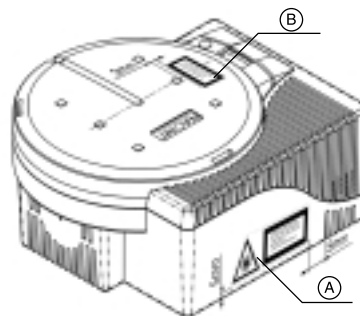
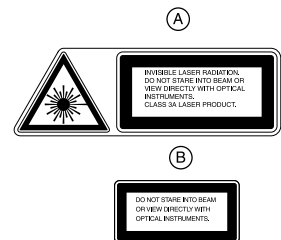


FIG. 6. 4 a



Application diagram



Please follow the drawing and place the sticker with the right language.

FIG. 6. 4 b

CAUTION for U. S. A., Europe, and Australia:
Attach the 2 caution stickers for a laser ray onto the GD-ROM drive.

- ③ Remove the 1 truss head screw that fixes the GD-ROM drive lid (DISC LID). And turn clockwise the lid to remove.

TRUSS SCREW (1)
M3 X 8

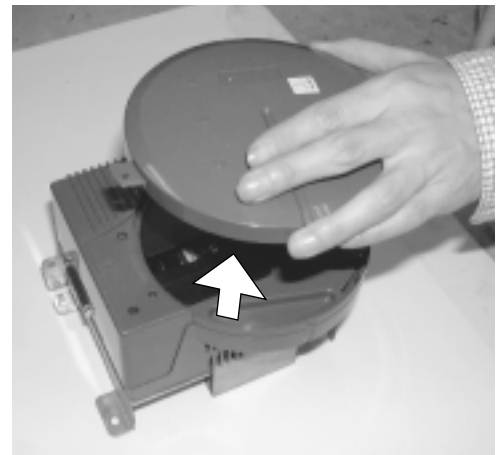
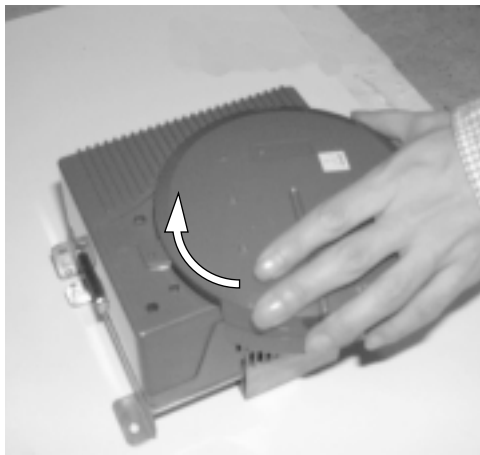
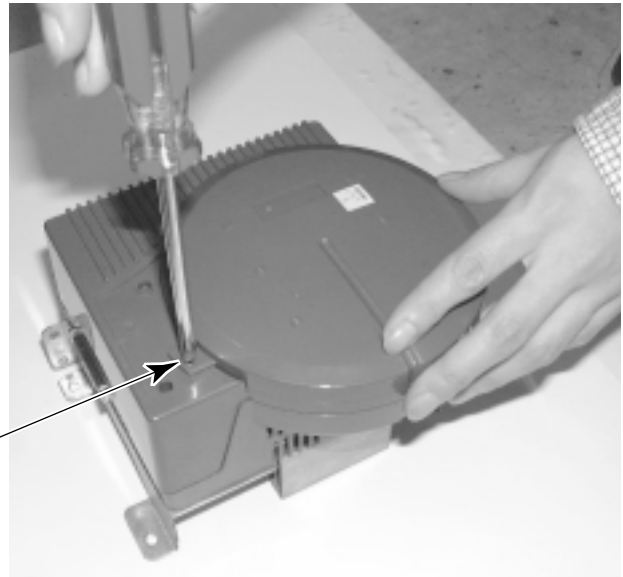


PHOTO 6. 4 b

- ④ Set the GD-ROM disk onto the GD-ROM drive with its labeled side facing upward.
- ⑤ Return the lid to its original place, and fix it with 1 truss head screw. Be careful not to fasten the screw too tightly.

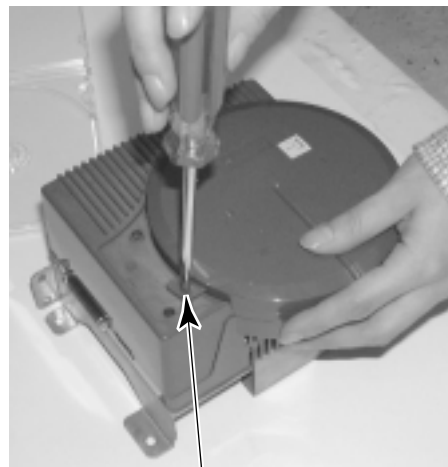


PHOTO 6. 4 c

TRUSS SCREW (1)
M3 X 8

- ⑥ Remove the 2 truss head screws that fix the PTV cabinet lid upper, and unlock. Thus remove the lid upper.

TRUSS SCREW (2), black
M4 X 16

UNLOCK

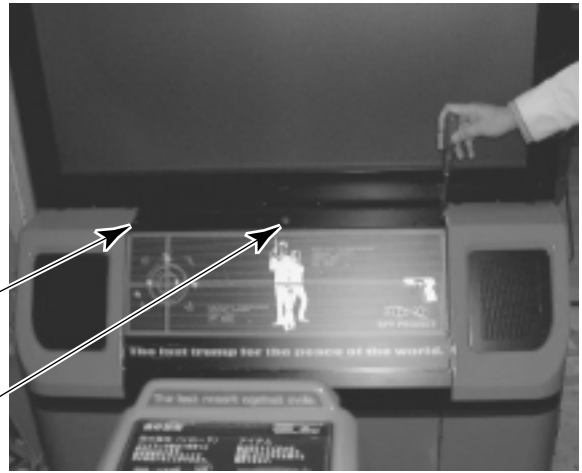


PHOTO 6. 4 d

- ⑦ Disconnect all the connectors of the wires extending to the ASSY MAIN BD in the PTV cabinet.

Disconnect the connector.

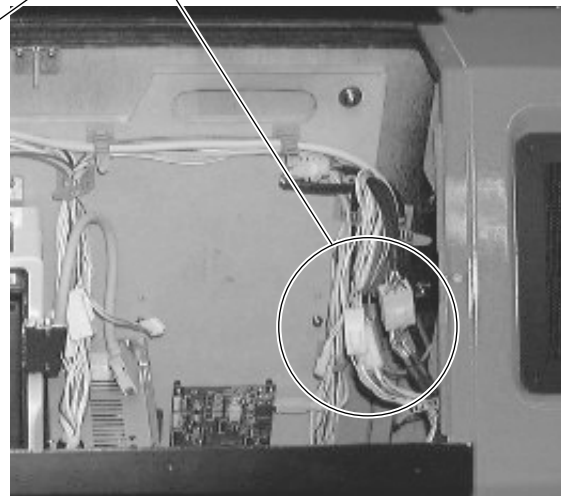


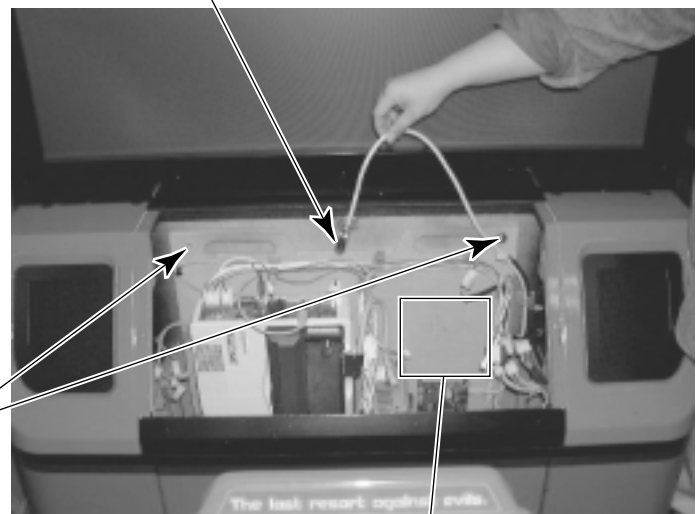
PHOTO 6. 4e

- ⑧ Disconnect the D-SUB connectors of the cable extending to the filter board (a part of the NAOMI board on the ASSY MAIN BD). Unclamp the cable with the D-SUB connector.

- ⑨ Remove the 2 screws that fix the ASSY MAIN BD's base (a wooden base).

SCREW (2)
M5 X 35, w/spring washer,
flat washer used.

D-SUB connector cable



GD-ROM drive is
installed here.

PHOTO 6. 4 f

- ⑩ Take out the ASSY MAIN BD from the PTV cabinet. Be careful not to damage the wires in this instance.

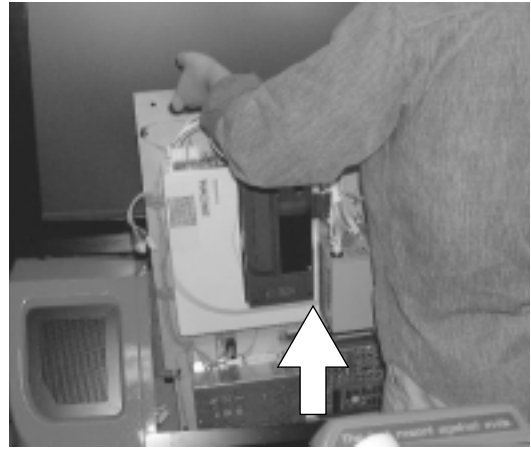


PHOTO 6. 4 g

- ⑪ Place the ASSY MAIN BD on a flat vertical surface.
- ⑫ Using the 4 screws, fix the GD-ROM drive onto the ASSY MAIN BD.

SCREW (4)
M4 X 16, w/flat & spring washers

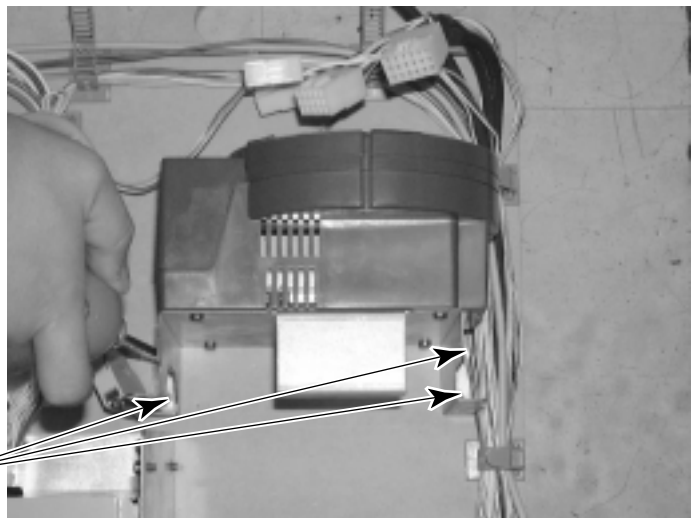


PHOTO 6. 4 h

- ⑬ Insert both the GD cable connector (for data communication) and the power cord connector (JST NH6P) into the GD-ROM drive. Be careful about an inserting direction in this instance. Make sure that the connectors are inserted firmly and completely.

Power Cord connector

GD Cable connector

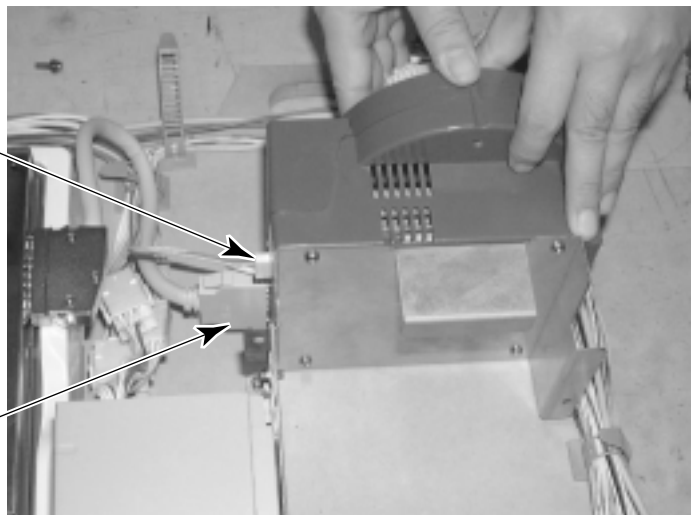


PHOTO 6. 4 i

- ⑭ Return the ASSY MAIN BD (now installed with the GD-ROM drive) into the PTV cabinet. Following the above-described actions in a reverse order, fix the base, connect the connectors, and clamp the wires/cables.
- ⑮ Return the PTV cabinet lid upper to the PTV cabinet.



- Be sure to independently use the power supply socket outlet equipped with an Earth Leakage Breaker. Using a power supply without an Earth Leakage Breaker can cause a fire when electric leakage occurs.
- Ensure that the "accurately grounded indoor earth terminal" and the earth wire cable are available (except in the case where a power cord plug with earth is used). This product is equipped with the earth terminal. Connect the earth terminal and the indoor earth terminal with the prepared cable. If the grounding work is not performed appropriately, customers can be subjected to an electric shock, and the product's functioning may not be stable.
- Ensure that the power cord and earth wire are not exposed on the surface (passage, etc.). If exposed, they can be caught and are susceptible to damage. If damaged, the cord and wire can cause electric shock and short circuit accidents. Ensure that the wiring position is not in the customer's passage way or the wiring has protective covering.
- After wiring power cord on the floor, be sure to protect the power cord. Exposed power cord is susceptible to damage and causes an electric shock accident.

The AC Unit is located on one side of Cabinet. The AC Unit has Main SW, Earth Terminal and the Inlet which connects the Power Cord.

- ① Ensure that the Main SW is OFF.

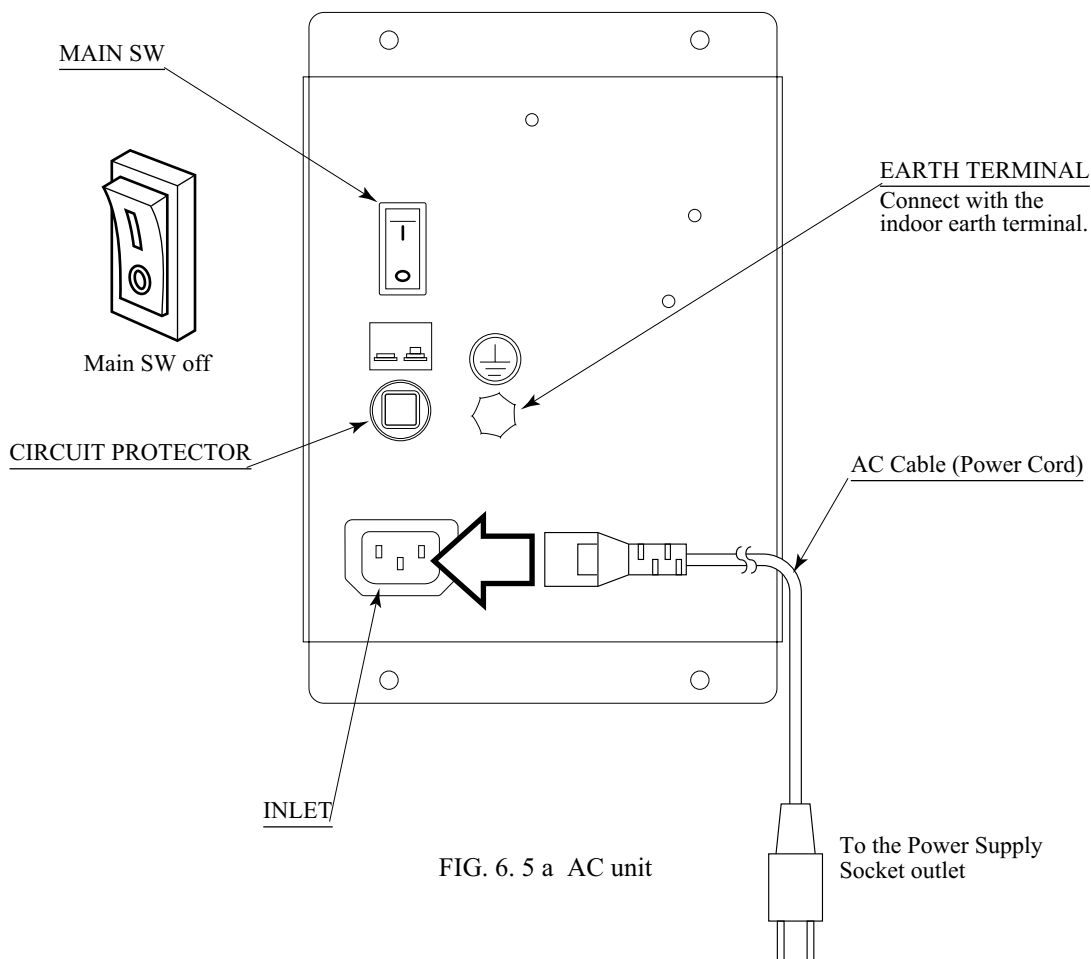


FIG. 6. 5 a AC unit

- ② Connect one end of the earth wire to the AC Unit earth terminal, and the other end to the indoor earth terminal. The AC Unit earth terminal has a Bolt and Nut combination. Take off the Nut, pass the end of earth wire through the Bolt, and fasten the Nut.
- Note that the Earth Wire is incorporated in the Power Cord for the Areas of AC 120V (USA) and AC 220 ~ 240V, and therefore, this procedure is not necessary.

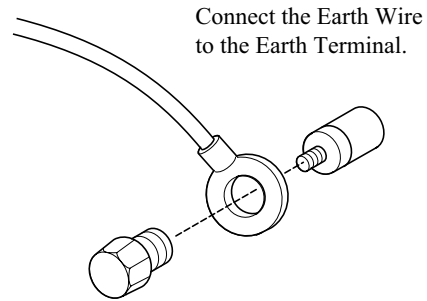


FIG. 6. 5 b Earth Wire Connection

- ③ Firmly insert the power plug into the socket outlet.
Insert the opposite side of Power Cord plug to the AC Unit's connector ("INLET").
- ④ Perform wiring for the Power Cord and Earth Wire. Install protective covering for the Power Cord and Earth Wire.

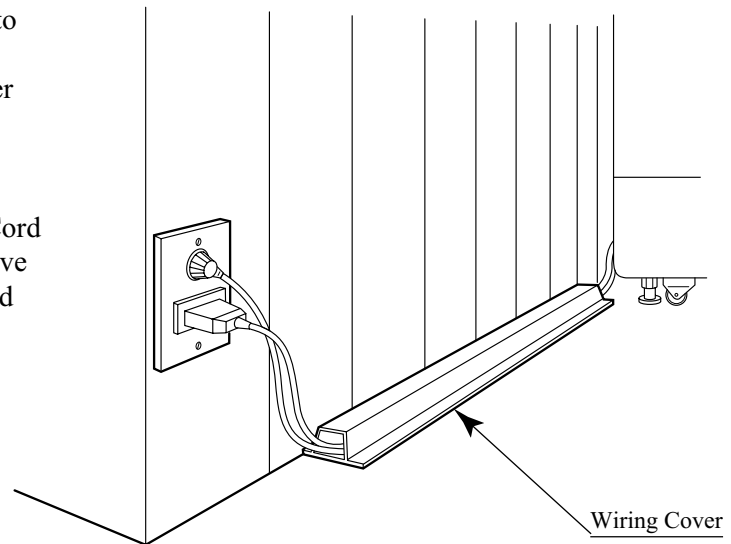
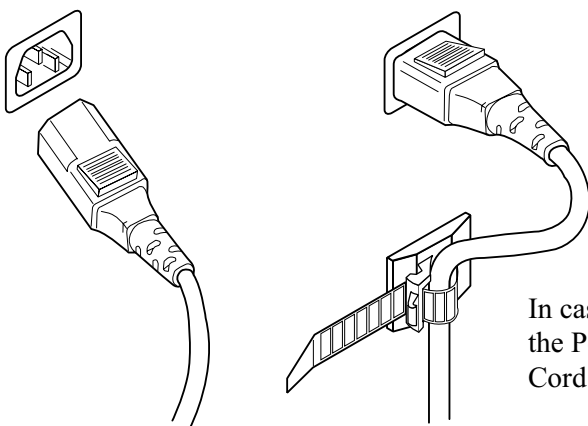


FIG. 6. 5 c Connecting Power Cord and Earth Wire



In case the Power Plug is apt to come out of place, secure the Power Cord to the periphery of the AC Unit with the Cord Clamp (an accessory).

HOW TO USE THE CORD CLAMP

6

TURNING POWER ON

Turn on the AC unit's main switch to connect the power. When the power is connected, the fluorescent light in the billboard becomes on. A few seconds later a system startup screen appears and then an advertising screen (plying for a player screen) appears.

Time until displaying an advertising screen is not constant; it varies from some tens of second up to several minutes. This is due to the functional characteristics of the GD-ROM system's rechargeable battery and therefore normal.

For more information, see the GD-ROM Service Manual.

When an advertising screen appears, sound is output from the speakers on the right and left of the PTV cabinet. Sound is not output if you have set the function to off.

After the power is disconnected, the system can maintain the data of credit number and ranking. The system cannot maintain, however, the fractional number of coins (not enough for one credit) and the bonus adder count data.

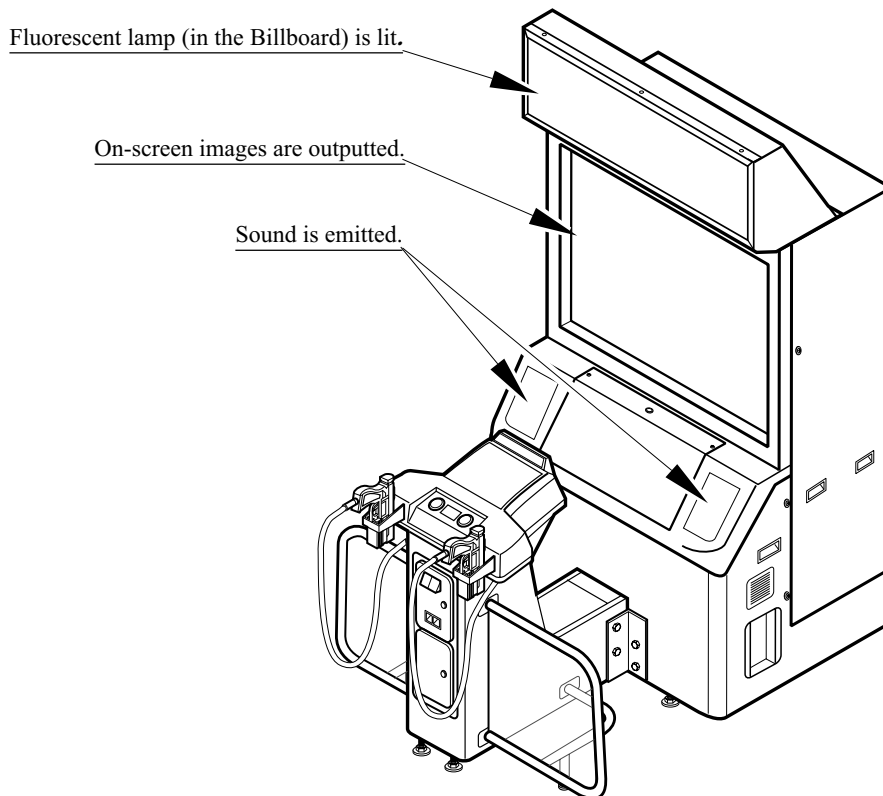


FIG. 6. 6



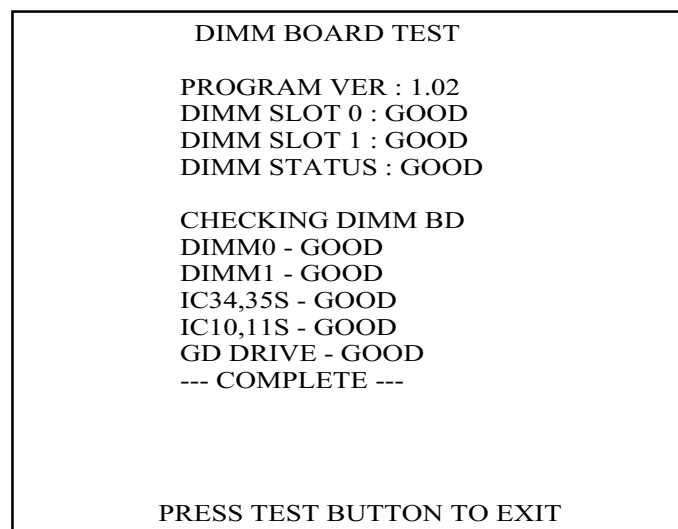
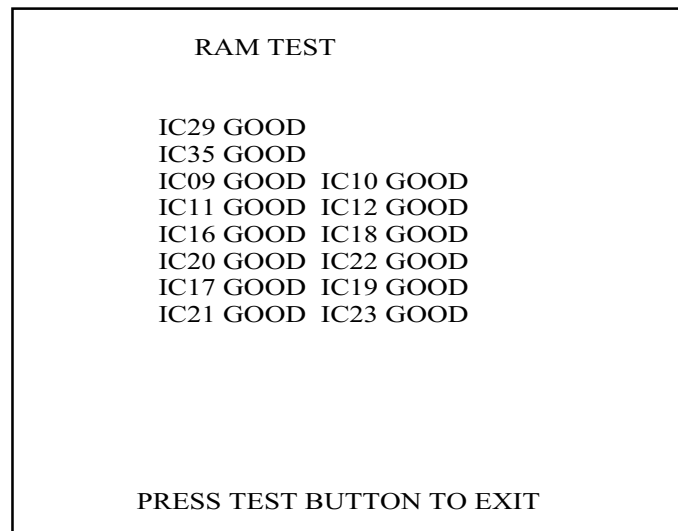
ASSEMBLING CHECK

In the TEST MODE, ensure that the assembly has been made correctly and IC BD. is satisfactory (refer to Section 9).

In the test mode, perform the following test:

(1) MEMORY TEST

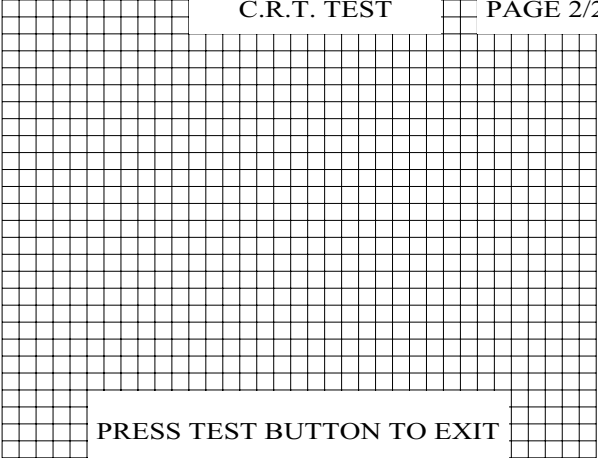
Selecting the RAM TEST and DIMM BOARD TEST on the test mode menu screen causes the on-board memory to be tested automatically. The game board is satisfactory if the display beside each IC No. shows GOOD.



(2) C.R.T. TEST

C.R.T. TEST	PAGE 1/2				
<table><tr><td>RED</td></tr><tr><td>GREEN</td></tr><tr><td>BLUE</td></tr><tr><td>WHITE</td></tr></table>		RED	GREEN	BLUE	WHITE
RED					
GREEN					
BLUE					
WHITE					
PRESS TEST BUTTON TO CONTINUE					

In the TEST mode menu, selecting C.R.T. TEST allows the screen (on which the projector is tested) to be displayed. Although the projector adjustments have been made at the time of shipment from the factory, make judgment as to whether an adjustment is needed by watching the test mode screen. If it is necessary, adjust the projector by referring to Section 11.

	C.R.T. TEST		PAGE 2/2
			
PRESS TEST BUTTON TO EXIT			

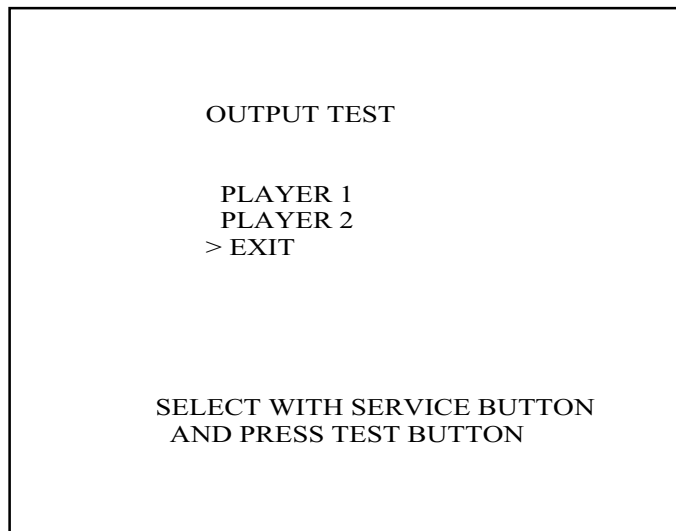
(3) INPUT TEST

INPUT TEST		
	PLAYER 1	PLAYER 2
TRIGGER	OFF	OFF
SCREEN-IN	OUT	OUT
GUN-X	0	0
GUN-Y	0	0
START	OFF	OFF
PRESS TEST AND SERVICE BUTTON TO EXIT		

Selecting the INPUT TEST on the game test mode menu screen causes the screen (on which each switch is tested) to be displayed. Press each switch. If the display beside each switch indicates "ON," the switch and wiring connections are satisfactory.

(4) OUTPUT TEST

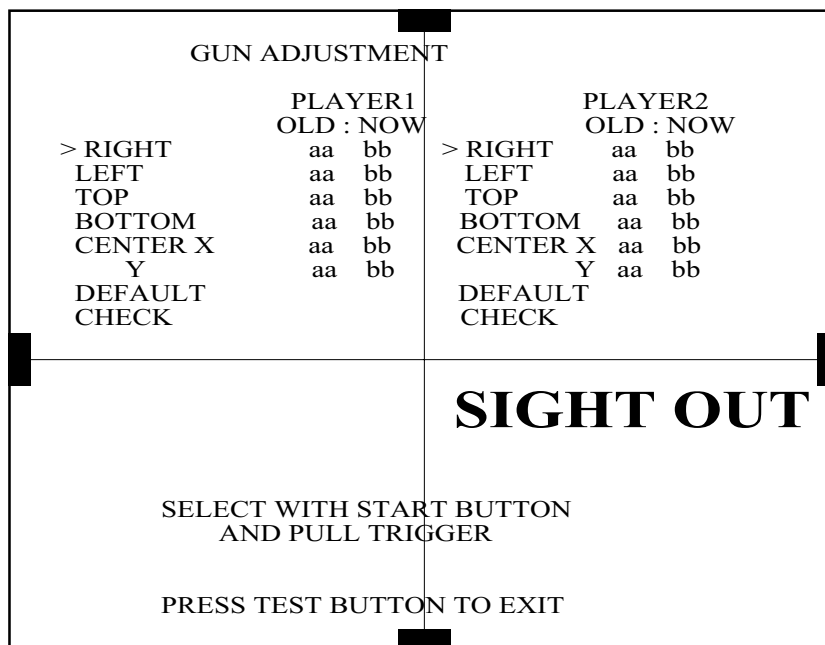
Select OUTPUT TEST from the menu in the test mode to cause the screen (on which each lamp and wiring connections are tested) to appear. Ensure that lamp light up satisfactorily.



(5) GUN ADJUSTMENT

Before starting the operation, play the game by yourself and make sure that the gun readjustment is not needed and that you can play the game without a problem. Although completed at the factory, the gun adjustment may be necessary because after the adjustment the product has been disassembled for packing and shipping.

For more information about the gun adjustment, see Section 9-3E.



Perform the above inspections also at the time of monthly inspection.

As for the gun adjustment described in Section (5) above, weekly confirm that the gun is properly adjusted.

THE INTERFERENCE PREVENTION WIRING



- In order to prevent electric shock and short circuit hazards, be sure to turn power off before performing work.
- Be careful so as not to damage wirings. Damaged wiring can cause fire, electric shock and short circuit hazards.
- Do not expose the IC BD, etc. without a good reason. Failure to observe this can cause electric shock hazard or malfunctioning.
- Work should be performed by the Location's Maintenance Man or technical personnel. Performing work by those who do not have technical knowledge and expertise can cause electric shock accident or malfunctioning.

When the game machines of a same or similar type are installed side by side, their sensors may interfere with each other. To reject the interference, follow the procedure below.

The following game machines employ a same or similar type of sensor. If interference happens to the sensors, operation of the games may be mutually disturbed.

- VIRTUA COP 2, U/R type and DX type
- THE HOUSE OF THE DEAD, U/R type and DX type
- THE HOUSE OF THE DEAD 2, U/R type and DX type
- THE LOST WORLD, U/R type and DX type
- BRAVE FIRE FIGHTERS
- SAMBA DE AMIGO
- CONFIDENTIAL MISSION, U/R type

- ① Disconnect the power.
- ② Remove the 2 truss head screws that fix the PTV cabinet lid upper, and unlock. Thus remove the lid upper.
- ③ Locate an interference rejection wire inside the cabinet.
If the game machines of a same or similar type are installed side by side, place them alternately (place the machine with an interference rejection wire next to the machine without).

INTERFERENCE PREVENTION WIRING
SPY-60019



PHOTO 6. 7

7. PRECAUTIONS TO BE HEEDED WHEN MOVING THE MACHINE

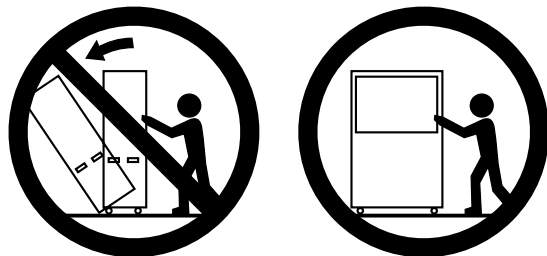


- When moving the machine, be sure to pull out the plug from the power supply. Moving the machine with the plug as is inserted can cause the power cord to be damaged and could result in a fire and or electric shock.
- When moving the machine on the floor, retract the Adjusters and ensure that Casters make contact with the floor. During transportation, pay careful attention so that Casters do not tread power cords and earth wires. Damaging the power cords can cause an electric shock and or short circuit.
- In places where step-like grade differences exist, be sure to separate the PTV, PTV Cabinet, and the Controller Cabinet. Inclining the PTV as is mounted on the PTV Cabinet can cause the PTV to fall off from the Base and result in injury.
- When lifting the cabinet, be sure to hold the catch portions or bottom part. Lifting the cabinet by holding other portions can damage parts and installation portions due to the empty weight of the cabinet, and cause personal injury.
- When moving the PTV, do not push it from the rear side. Push it from sideways. Pushing the PTV from the rear side can have the PTV fall down, causing personal injury etc. In case the floor has slanted surfaces or step-like differences, be sure to move the machine by 2 or more persons.



- Do not move the product with a GD-ROM disk inside. Remove the GD-ROM disk before moving the product. Failure to observe this instruction may cause the GD-ROM disk and/or GD-ROM drive to be damaged.
- Do not hold or press the plastic parts as indicated by the Figure 7C. Failure to observe this instruction may break the parts, and eventually the broken pieces may cause a personal injury.

Do not push PTV from the back. Pushing the PTV from the back can cause the PTV to fall down. Push it from the side.



When transporting the product in places with steps or step-like differences in grade, disassemble into each unit before transporting.

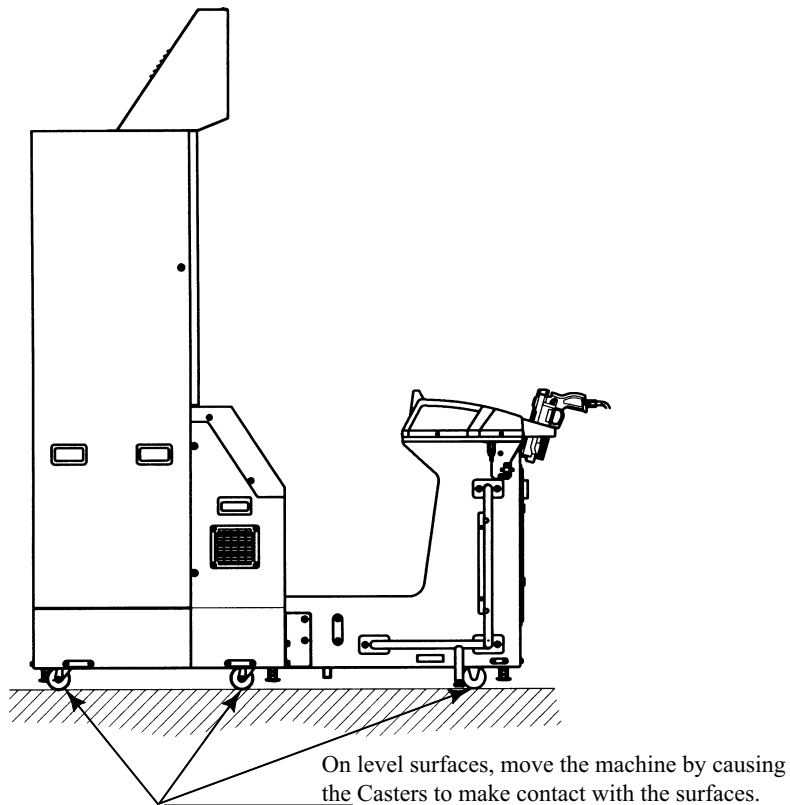


FIG. 7 a

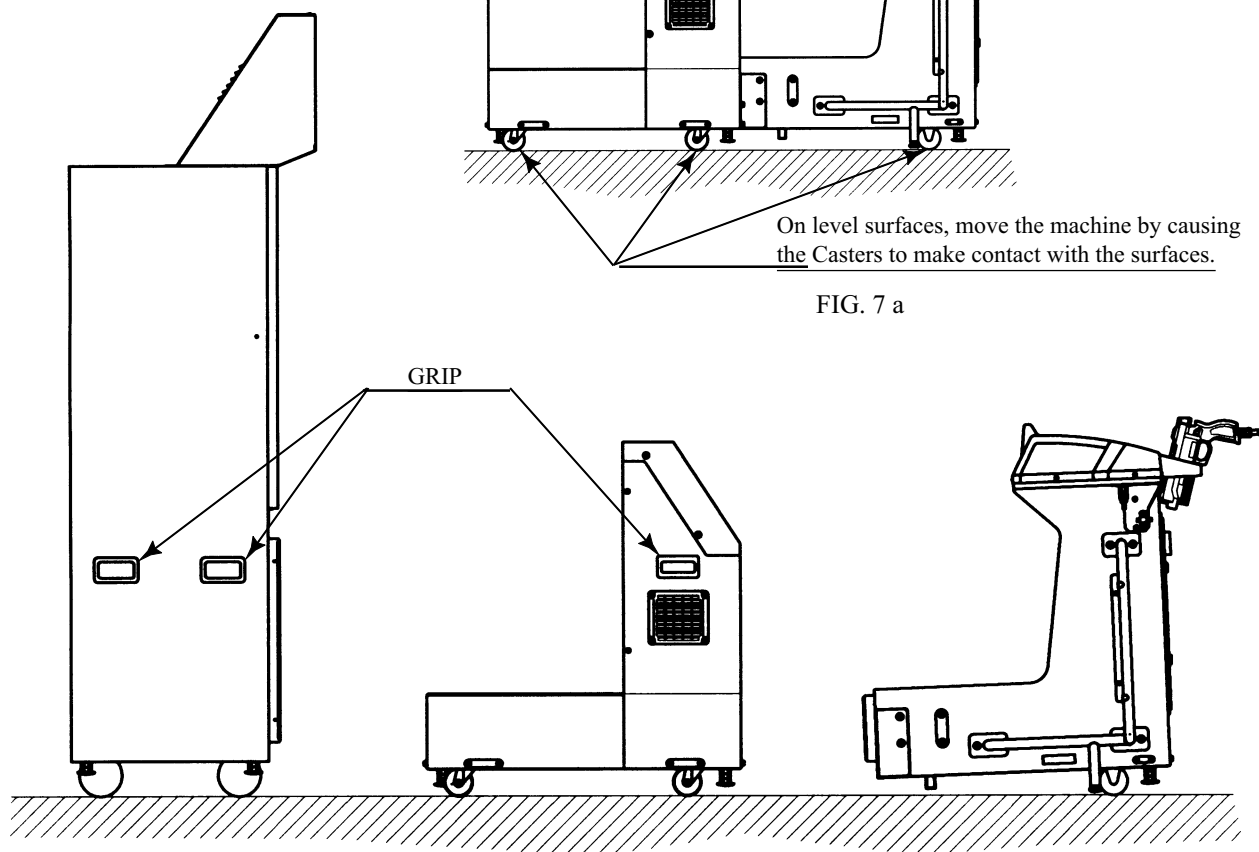


FIG. 7 b

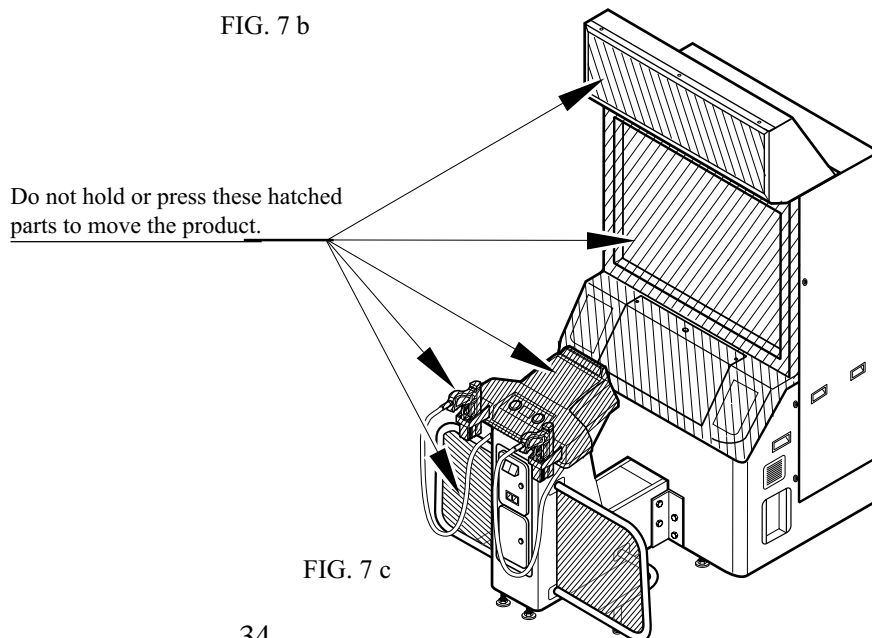


FIG. 7 c

8. CONTENTS OF GAME

The following explanations apply to the case the product is functioning satisfactorily. Should there be any moves different from the following contents, some sort of faults may have occurred. Immediately look into the cause of the fault and eliminate the cause thereof to ensure satisfactory operation.

While the power is connected, the fluorescent light in the billboard is on and demonstration images and ranking data are displayed. During this advertising period, sound is also output from the speakers on the right and left of the PTV cabinet. Sound is not output if you have set the function to off.

Each of the right and left start buttons is integrated with a light. The light flashes when coins are inserted sufficiently for a play. The light goes out when the start button is pressed to start the game. The light flashes again when the system requests a player to press the button.

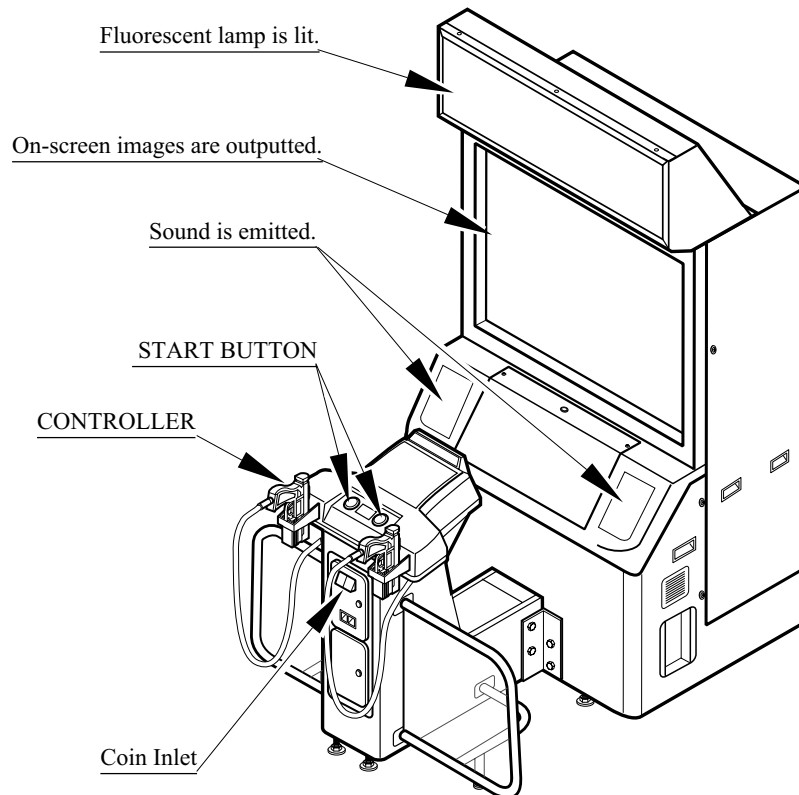


FIG. 8

Introduction to the Game

Based on a spy story this is a gun shooting game that enables two players to play simultaneously.

Player, as an agent, must shoot the enemies in your way and thus try to perform a mission of each stage. The game provides total 3 stages.

Characters of Agents

- HOWARD GIBSON [agent code : 6] (1P side)
nationality ; unknown
height ; 183cm
hair ; brown
eyes ; brown



- JEAN CLIFFORD [agent code : 15] (2P side)
nationality ; unknown
height ; 172cm
hair ; blonde
eyes ; blue



Your Missions to Perform

Stage 1:

A military satellite was hijacked by an unknown group. A suspicious radio access to the satellite was detected and the radio source was traced to the History Museum. Your mission is to penetrate the Museum and to collect information.

Stage 2:

The collected information revealed a group that had hijacked the satellite. The group, named as Agares, seized Ms. Illina Mikahailova (one of the control system development staffs) and has forced her to falsely modify the system. Your mission is to recover her who is in the train for transference.

Stage 3:

Ms. Illina Mikahailova cooperated to successfully locate the base of the Agares. However, the Agares members are going to leave the base after having moved the military satellite control system into their submarines. Your mission is to penetrate the base and recover the control system.

How to Play

- ① Whenever you insert a coin, credit number counts up on the bottom of the screen. When you have inserted coins enough for a play, the INSERT COIN(S) message disappears and the PRESS START BUTTON message appears instead on the bottom of the screen. At the same time both the start buttons flash.
- ② Press either the two start buttons whichever you want to use for playing. Then a controller adjustment screen appears.



You can adjust the gun controller by shooting a mark at the center of the screen. (This function works only if the GUN ADJUSTMENT item has been set to ON in the GAME ASSIGNMENT screen.)

- ③ After you complete a gun controller adjustment, the system displays a screen that explains your mission of the stage.

Game Screen



The loaded bullets and the remaining life number for a left-side player (1P) is displayed on the bottom left of the screen while for a right-side player (2P) the bottom right.

Reloading the Bullets

The RELOAD message is displayed after shooting the 6 bullets out. Aim the muzzle outside the screen and shoot to reload the bullets.



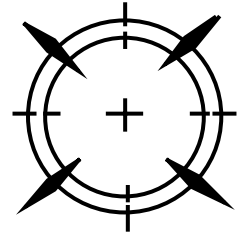
Game-over

Game is over when:

- ① Your life number becomes zero (0), or
- ② You have cleared the stage 3.

Reduction of Life Number

- A regular enemy soldier (grenade-man, bomb-man, knife-man, etc.) appears over a sight on the screen. Shoot the soldier before the sight becomes red; otherwise you will lose life by one.
- Shoot down the bullet from a grenade-man or bomb-man before it reaches you; otherwise you will lose life by one.
- Shoot the knife-man before it swings down a knife on you; otherwise you will lose life by one.
- If you shoot a civilian other than the enemy, you will lose life by one.



Operation of a Specific Event

Some specific events may take place stage by stage. If you succeed to play in the event, you can expect a desirable development of the game afterward. If you fail to play in the event, you can expect an undesirable development of the game afterward; for example the enemy will attack you more violently.

Example of Event:
Shooting with a running rope

If you succeed:
Holding a strap that is suspended from a running rope, you glide down in the air and thus run after an enemy boss.

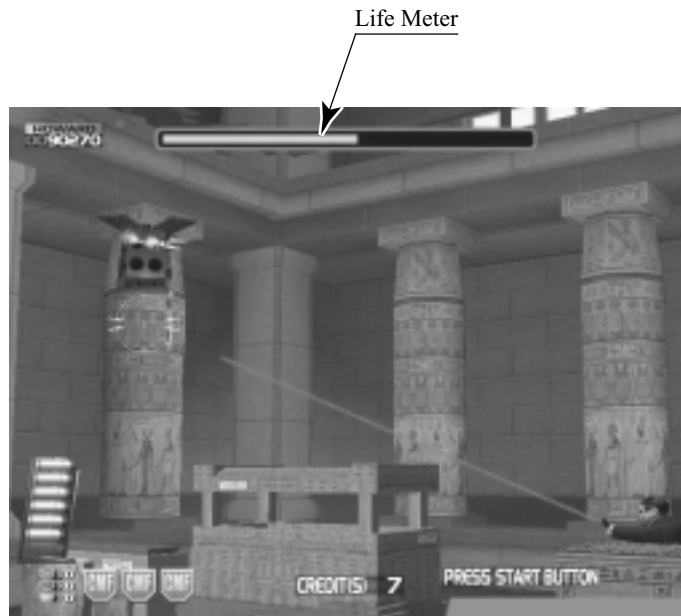


If you fail:
Attacked by the enemies, you jump downstairs.



Clearing the Stage

- A boss character appears at the end of each stage. You can clear the stage by destroying the boss.
- The boss is not destroyed until its life meter counts down to zero (0).



- If you clear the stage, a MISSION COMPLETE screen appears.



- normal hits ; Indicates the number of hits.
- special hits ; Indicates the total of combo and justice.
- combo ; Indicates the number of second and third hits out of your three continuous hits onto an enemy. The maximum 3 hits are justified to a single enemy.
- justice ; Indicates the number of justice shots. (Justice shot means that you shoot an enemy at its hands to blast its weapons off, making it lose its fighting spirit.)
- accuracy ; Indicates a hitting ratio (%).
- total ; Indicates the latest total scores.

Available Items

By shooting the items that appear on the screen, you can obtain them. If you obtain an item, you can build up your armaments, recover your life, or increase your scores.

☐ Life Items



C Mark



M Mark



F Mark

By obtaining a set of C, M, and F marks, one each, you can increase your life by one.

☐ Armament Items

ASSAULT RIFLE

By pulling the trigger, you can shoot the bullets automatically and continuously. The maximum 45 bullets are available. When all the 45 bullets are used, this item returns to an ordinary gun.



LASER SIGHT

A spot directed by the muzzle appears, in real time, as a pointer on the screen. You can shoot the bullets as many as you want within a time limit. When a time limit is reached, the laser sight disappears and this item returns to an ordinary gun.



BODY ARMOUR

This item enables to make an enemy's attack useless. The body armour disappears when once used against an enemy's attack.



GRENADE

This item explodes when shot and can widely damage the target. The grenade disappears when once exploded.



☐ Point Item

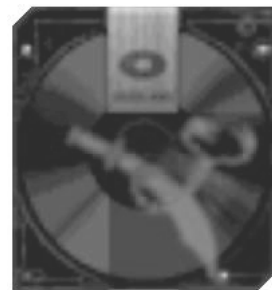
Attach_Case

You can get 3,000 points. When this item is shot, three floppy disks appear.



Floppy Disk

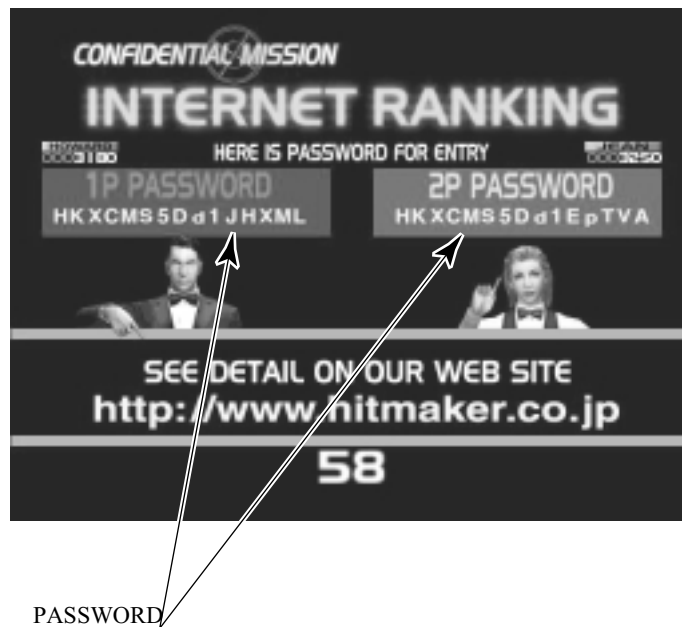
This item appears when you shoot the attach_case item. You can get 5,000 points per piece.



- ④ If you want to join in the game when another player is already playing, just insert the coins and press the unused start button; then the integrated light starts to flash. (It may be already flashing in the event that you have the credits enough for a play.) Press the flashing start button again; now you can play.
NOTE: You cannot join in the game if the PLEASE WAIT A MINUTE message is on the screen.
- ⑤ When your life becomes zero (0) but you want to continuously play the game, insert the coins enough to continue, and press the start button. (In the event that you have the credits enough to continue, just press the start button without inserting the coins.)
- ⑥ You can enter your name in an Internet ranking mode if you have taken the 20th or higher place in the points when the game has been over.

- If you have set the INTERNET RANKING item to ON in a GAME ASSIGNMENTS screen, the following message appears on the upper section of an advertising screen.
INTERNET RANKING MODE: PULL TRIGGER AND INSERT COIN
- You can obtain your password to be registered in an Internet ranking, as follows:
 - Make sure that an Internet ranking item has been set to on.
 - Pull the trigger and insert coins to activate an Internet ranking mode.
 - Enter your name.

NOTE: A CONFIDENTIAL MISSION Internet score ranking is operated at a homepage of Hitmaker Ltd.
- For registering the password, see the homepage of Hitmaker Ltd.
(<http://www.hitmaker.co.jp>).
- In an Internet ranking mode, the difficulty settings are automatically reset to the values that are specific with an Internet ranking, in the event that this function has been set to on. If you insert the coins without pulling the trigger, however, the difficulty settings are not reset even in the event that this function has been set to on.



Keys for Getting High Points

- Destroy an enemy as soon as it appears.
Obtainable point is highest if you destroy an enemy immediately after it appears on the screen. Point becomes lower when a sight is completed in red. The earlier you destroy an enemy the higher the point is.
- Obtain a 'special hits' bonus point.
You obtain a bonus point if you can destroy an enemy with special hits (justice and combo). See Page 41, "Clearing the Stage."
- Obtain a bonus point from a successful playing in the event.
You obtain a bonus point if you can succeed to play in the events that may take place stage by stage.

9. EXPLANATION OF TEST AND DATA DISPLAY

By operating the switch unit, periodically perform the tests and data check. When installing the machine initially or collecting cash, or when the machine does not function correctly, perform checking in accordance with the explanations given in this section.

The following shows tests and modes that should be utilized as applicable.

This product's basic system consists of the NAOMI game board and the GD-ROM drive. The system enables you to play several games one after the other just by changing a GD-ROM disk that is to be set on the GD-ROM drive.

The product supports, therefore, the following 2 test modes:

(1) System test mode for an automatic self-diagnostic test (generally used by every product that contains the basic system) and a coin assignment (specifically used by this product) and

(2) Game test mode for testing the input/output control devices and setting the difficulty level (specifically used by this product).

This manual does not cover the automatic self-diagnostic test. For more information about the system test mode, see the attached GD-ROM Service Manual.

TABLE 9 EXPLANATION OF TEST MODE

ITEMS	DESCRIPTION	REFERENCE SECTIONS
INSTALLATION OF MACHINE	When the machine is installed, perform the following: 1. Check to ensure each is the standard setting at shipment. 2. Check each Input equipment in the INPUT TEST mode. 3. Check each Output equipment in the OUTPUT TEST mode. 4. Test on-IC-Board IC's in the SELF-TEST mode.	SERVICE MANUAL 9-3D,E 9-3B 9-3C SERVICE MANUAL
MEMORY	This test is automatically executed by selecting RAM TEST, or ROM BOARD TEST in the Menu mode.	SERVICE MANUAL
PERIODIC SERVICING	Periodically perform the following: 1. MEMORY TEST 2. Ascertain each setting. 3. To test each Input equipment in the INPUT TEST mode. 4. To test each Output equipment in the OUTPUT TEST mode.	SERVICE MANUAL 9-3D,E 9-3B 9-3C
CONTROL SYSTEM	1. To check each Input equipment in the INPUT TEST mode. 2. Adjust or replace each Input equipment. 3. If the problem still remains unsolved, check each equipment's mechanism movements.	SERVICE MANUAL 9-3B,E 10
MONITOR	In the Monitor Adjustment mode, check to see if Monitor (Projector) adjustments are appropriate.	SERVICE MANUAL 11
IC BOARD	1. MEMORY TEST 2. In the SOUND TEST mode, check the sound related ROMs.	SERVICE MANUAL SERVICE MANUAL
DATA CHECK	Check such data as game play time and histogram to adjust the difficulty level, etc.	SERVICE MANUAL 9-3F

9 - 1 SWITCH UNIT AND COIN METER



Never touch places other than those specified. Touching places not specified can cause electric shock and short circuit accidents.



- Adjust to the optimum sound volume by considering the environmental requirements of the installation location.
- If the COIN METER and the game board are electrically disconnected, game play is not possible.

SWITCH UNIT

Open the coin chute door, and the switch unit shown will appear.
The functioning of each SW is as follows:

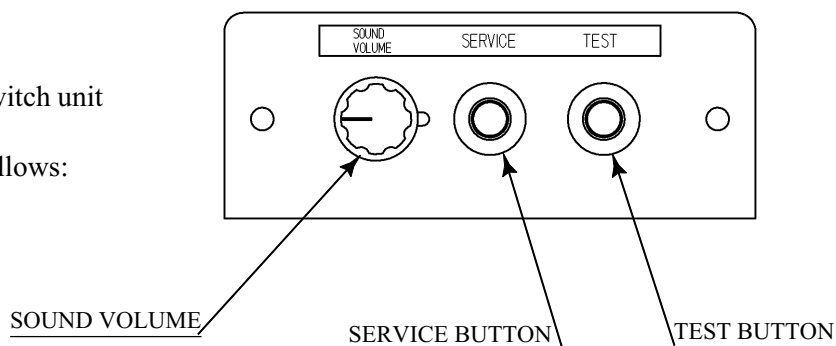


FIG. 9. 1 a SWITCH UNIT

- | | |
|-------------------------------|--|
| TEST BUTTON:
TEST | For the handling of the test button, refer to the following pages. |
| SERVICE BUTTON:
SERVICE | Gives credits without registering on the coin meter. |
| SOUND VOLUME:
SOUND VOLUME | Adjusts sound volume for all of the machines' Speakers. |

COIN METER

Open the Cashbox Door by using the key to have the Coin Meter appear underneath the Cashbox.

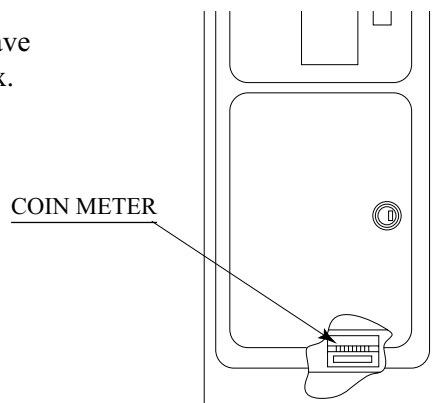


FIG. 9. 1 b



- The contents of settings changed in the TEST mode are stored when the test mode is finished from EXIT in the menu mode. If the power is turned off before the TEST mode is finished, the contents of setting change become ineffective.
- Executing "BACKUP DATA CLEAR" in the SYSTEM TEST MODE does not clear the BOOKKEEPING data in the GAME TEST mode.
- Entering the TEST mode clears fractional number of coins less than one credit and BONUS ADDER data.
- Perform setting as per specified in this manual for operation. If setting not specified is performed for operation, proper function of this product may not be obtained.

In the SYSTEM TEST MODE, IC BD functioning can be checked, the monitor adjusted, and the coin setting performed.

Refer to GD-ROM SERVICE MANUAL for the details. Note that the setting of the following items need to be performed in accordance with the instruction given.

- CABINET TYPE : 2 PLAYER(S)
- MONITOR TYPE : HORIZONTAL
- SERVICE TYPE : COMMON
- COIN CHUTE TYPE : COMMON

9 - 3 GAME TEST MODE

A. MENU MODE

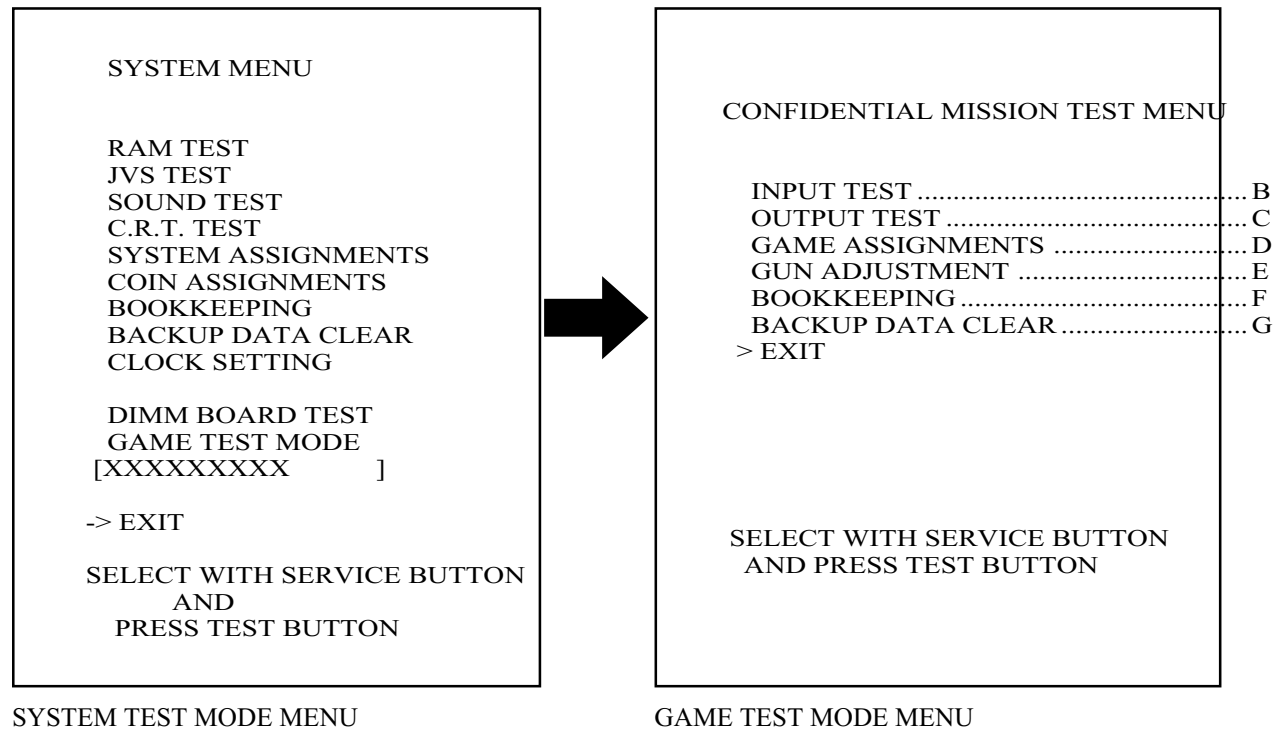


FIG. 9. 3 a MENU MODE

- Press TEST button to display the MENU screen in the SYSTEM MODE.
- Move the arrow with the SERVICE button and select GAME TEST MODE. Press the TEST button to display the MENU screen in the GAME TEST MODE.
- Move the arrow with the SERVICE button and select an item. Press the TEST button to enter the selected item.
- Select the EXIT and press the TEST button to finish the test mode and return to the MENU screen in the SYSTEM TEST MODE. Select the EXIT in the mode and press the TEST button to finish the SYSTEM TEST MODE. The screen returns to the game mode.

B. INPUT TEST

Select the INPUT TEST item on the CONFIDENTIAL MISSION TEST MENU screen, and press the test button. Then, the following INPUT TEST screen appears. Regularly test the input devices on this screen.

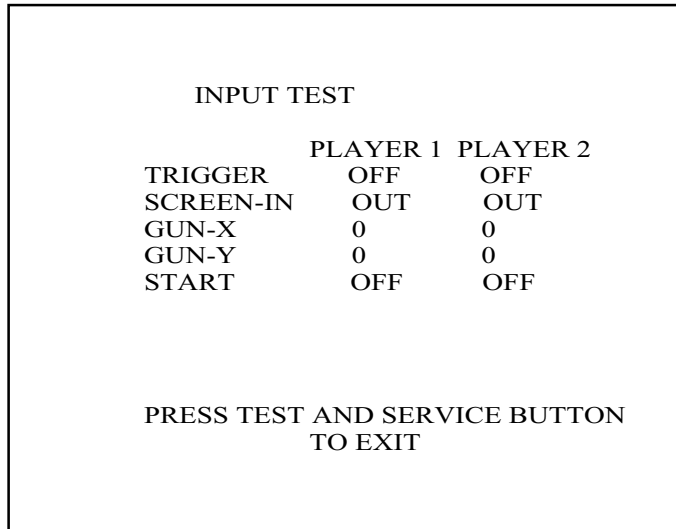


FIG. 9. 3 b INPUT TEST screen

- Pull the controller's trigger. Make sure that the TRIGGER item indicates ON instead of OFF, that is, the trigger is normal.
- Point the controller toward the screen. Make sure that the SCREEN-IN item indicates IN instead of OUT and the GUN-X and GUN-Y items change their indications within the scope between 0 and ff, that is, the controller is normal.
- Press the start button. Make sure that the START item indicates ON instead of OFF, that is, the button is normal.
- After testing, press the TEST and SERVICE buttons simultaneously to return to the CONFIDENTIAL MISSION TEST MENU screen.

C. OUTPUT TEST

Select the OUTPUT TEST item on the CONFIDENTIAL MISSION TEST MENU screen, and press the test button. Then, the following OUTPUT TEST screen appears. Regularly test the lights on this screen.

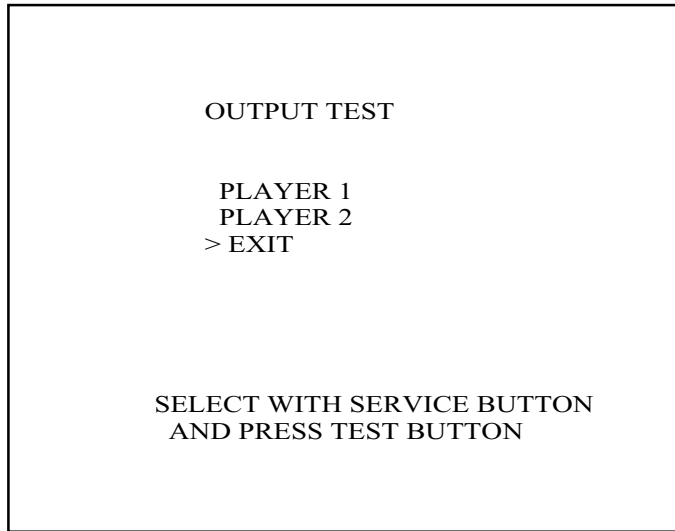


FIG. 9. 3 c OUTPUT TEST screen

- Select the PLAYER 1 (PLAYER 2) item. Make sure that the light integrated with the 1P-side (2P-side) start button flashes, that is, the light and wires are normal.
- After testing, select the EXIT item and press the TEST button to return to the CONFIDENTIAL MISSION TEST MENU screen.

D. GAME ASSIGNMENTS

Select the GAME ASSIGNMENTS item on the CONFIDENTIAL MISSION TEST MENU screen, and press the test button. Then, the following GAME ASSIGNMENTS screen appears. This screen enables to reset some game parameters. New settings become effective by exiting the CONFIDENTIAL MISSION TEST MENU screen. If you have reset any game parameters, therefore, be sure to exit the CONFIDENTIAL MISSION TEST MENU screen.

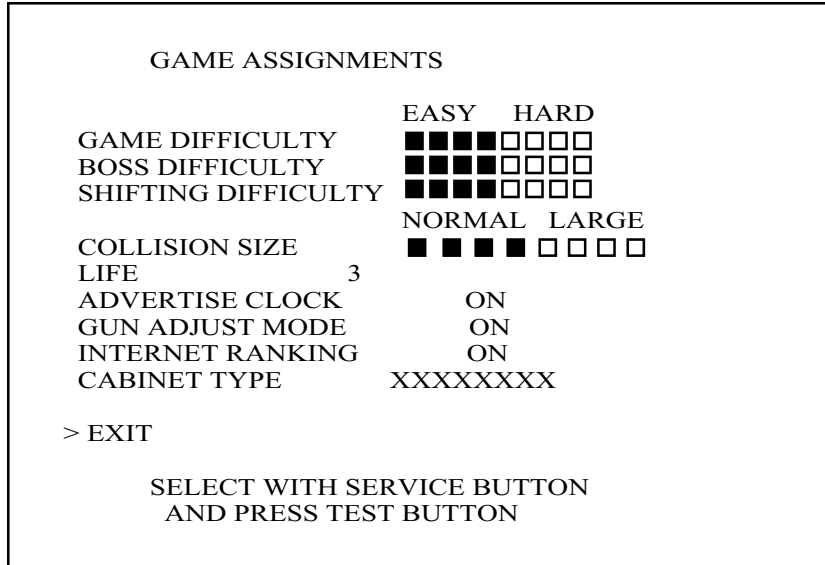


FIG. 9. 3 d GAME ASSIGNMENTS screen

- Press the SERVICE button to move the > mark to any desired item to reset. Press the TEST button to select a new setting.
- Select the EXIT item and press the TEST button, to return to the CONFIDENTIAL MISSION TEST MENU screen.

- GAME DIFFICULTY : Indicates a game difficulty level. Eight levels are selectable.
- BOSS DIFFICULTY : Indicates a difficulty level of the fight against an enemy's boss. (Such a fight takes place stage by stage.) Eight levels are selectable.
- SHIFTING DIFFICULTY : Indicates how a difficulty level increases as the game advances. Eight levels are selectable.
- COLLISION SIZE : Indicates violence of a collision with an enemy that may appear in the game. Eight levels are selectable.
- LIFE : Indicates an initial life (the number of life given to a player at the beginning of the game). Six levels (any number from 3 to 8) are selectable.
- ADVERTISE CLOCK : Indicates whether to display a clock on the screen during advertising or plying for hire (ON), or not (OFF).
- GUN ADJUST MODE : Indicates whether to display the GUN CONTROLLER ADJUSTMENT screen at the beginning of the game (ON), or not (OFF).

- **INTERNET RANKING:** Indicates whether to activate an Internet score ranking mode available on a homepage of Hitmaker Ltd. (ON), or not (OFF).
If this item is set to ON, the following message appears on the upper section of an advertising screen.
INTERNET RANKING MODE: PULL TRIGGER AND INSERT COIN
In this instance, pull the trigger and insert coins to activate an Internet score ranking mode. Then, at the end of the game, the system displays your password that is used to register you in an Internet score ranking.
When playing the game in an Internet score ranking mode, the system automatically reset all the items (other than ADVERTISING CLOCK, GUN ADJUST MODE, and CABINET TYPE) to the settings specific with an Internet score ranking mode. This automatic resetting does not occur if you have inserted coins without pulling the trigger.
- **CABINET TYPE** : Indicates a type of the cabinet you use: DELUXE (DX TYPE) or STANDARD (U/R TYPE).

E. GUN ADJUSTMENT

Select the GUN ADJUSTMENT item on the CONFIDENTIAL MISSION TEST MENU screen, and press the TEST button. Then, the following GUN ADJUSTMENT screen appears. This screen enables to reset the 5 correction parameters (the screen's center and right/left/top/bottom ends). A setting procedure is described below. As instructed by the setting procedure, be sure to actually point the controller at the screen's center and ends to decide each correction value.

Press the 1P or 2P start button to select any correction parameter.

New settings become effective by exiting the CONFIDENTIAL MISSION TEST MENU screen. If you have reset any correction parameters, therefore, be sure to exit the CONFIDENTIAL MISSION TEST MENU screen.

GUN ADJUSTMENT			
	PLAYER1 OLD : NOW		PLAYER2 OLD : NOW
> RIGHT	aa bb	> RIGHT	aa bb
LEFT	aa bb	LEFT	aa bb
TOP	aa bb	TOP	aa bb
BOTTOM	aa bb	BOTTOM	aa bb
CENTER X	aa bb	CENTER X	aa bb
Y	aa bb	Y	aa bb
DEFAULT		DEFAULT	
CHECK		CHECK	
<div style="font-size: 2em; font-weight: bold; margin-bottom: 10px;">SIGHT OUT</div> <div>SELECT WITH START BUTTON AND PULL TRIGGER</div> <div>PRESS TEST BUTTON TO EXIT</div>			

FIG. 9. 3 e GUN ADJUSTMENT screen

- RIGHT aa bb : This decides a horizontal correction value at the right end. The aa column indicates the values before resetting while the bb after.
Point the controller to a screen's right end, aim at a square mark, and pull the trigger; thereby decide a correction value.
It is unnecessary to consider a vertical correction in this action.
- LEFT aa bb : This decides a horizontal correction value at the left end. The aa column indicates the values before resetting while the bb after.
Point the controller to a screen's left end, aim at a square mark, and pull the trigger; thereby decide a correction value.
It is unnecessary to consider a vertical correction in this action.
- TOP aa bb : This decides a vertical correction value at the top end. The aa column indicates the values before resetting while the bb after.
Point the controller to a screen's top end, aim at a square mark, and pull the trigger; thereby decide a correction value.
It is unnecessary to consider a horizontal correction in this action.
- BOTTOM aa bb : This decides a vertical correction value at the bottom end. The aa column indicates the values before resetting while the bb after.
Point the controller to a screen's bottom end, aim at a square mark, and pull the trigger; thereby decide a correction value.
It is unnecessary to consider a horizontal correction in this action.
- CENTER X(Y) aa bb : This decides a correction value at the center. X indicates a horizontal direction while Y a vertical direction. The aa column indicates the values before resetting while the bb after.
Point the controller to a screen's center, aim at a square mark, and pull the trigger; thereby decide a correction value.
- DEFAULT : This returns the correction values to those before resetting.
- CHECK : This enables to perform a gun adjustment.
Select the CHECK item and point the controller to a screen. A round cursor (red for 1P and blue for 2P) appears on the screen to indicate a position of your hitting. Referring to the cursor, you can perform a gun adjustment.
- SIGHT OUT : The SIGHT OUT message appears when you point the controller to outside the screen.

F. BOOKKEEPING

Select the BOOKKEEPING item on the CONFIDENTIAL MISSION TEST MENU screen, and press the TEST button. Then, the following BOOKKEEPING 1/2 screen appears. Press the TEST button again; the BOOKKEEPING 2/2 screen appears. These screens show the latest operation data.

Press the TEST button in the BOOKKEEPING 2/2 screen to return to the CONFIDENTIAL MISSION TEST MENU screen.

BOOKKEEPING 1/2	
NUMBER OF GAMES	0
TOTAL (POWER ON) TIME	00H 00M 00S
GAME TIME	00H 00M 00S
PLAY TIME	00H 00M 00S
AVERAGE PLAY TIME	00H 00M 00S
LONGEST PLAY TIME	00H 00M 00S
SHORTEST PLAY TIME	00H 00M 00S
PRESS TEST BUTTON TO CONTINUE	

FIG. 9. 3 fa BOOKKEEPING 1/2 screen

- NUMBER OF GAMES : This indicates the number of plays.
- TOTAL (POWER ON) TIME: This indicates the accumulated power-on hours.
- GAME TIME : This indicates the accumulated operation hours.
- PLAY TIME : This indicates the accumulated playing hours (1P+2P).

BOOKKEEPING 2/2	
TIME HISTOGRAM	
0M00S - 0M29S	0
0M30S - 0M59S	0
1M00S - 1M29S	0
1M30S - 1M59S	0
2M00S - 2M29S	0
2M30S - 2M59S	0
3M00S - 3M29S	0
3M30S - 3M59S	0
4M00S - 4M29S	0
4M30S - 4M59S	0
5M00S - 5M29S	0
5M30S - 5M59S	0
6M00S - 6M29S	0
6M30S - 6M59S	0
7M00S - 7M29S	0
7M30S - 7M59S	0
8M00S - 8M29S	0
8M30S - 8M59S	0
9M00S - 9M29S	0
9M30S - 9M59S	0
OVER 10M00S	0
PRESS TEST BUTTON TO EXIT	

The BOOKKEEPING 2/2 screen indicates the number of plays per each playing period. Use the data when setting a difficulty level.

FIG. 9. 3 fb BOOKKEEPING 2/2 screen

G. BACKUP DATA CLEAR

Select the BACKUP DATA CLEAR item on the CONFIDENTIAL MISSION TEST MENU screen, and press the TEST button. Then, the following BACKUP DATA CLEAR screen appears. This screen enables to clear the data of bookkeeping and high-ranking scorers.

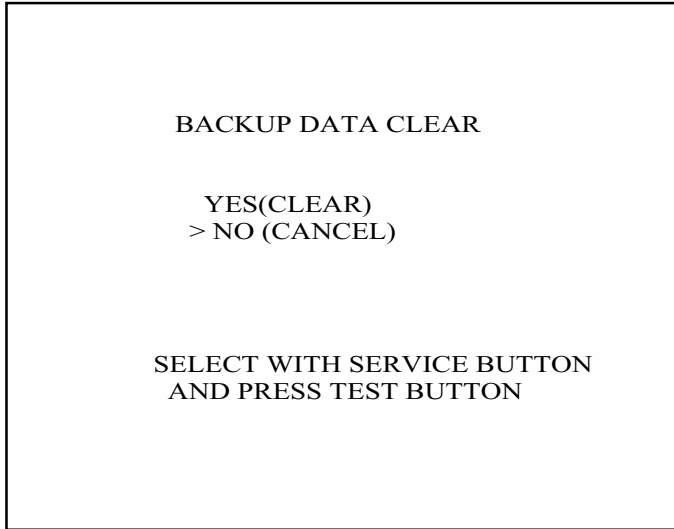


FIG. 9. 3 g BACKUP DATA CLEAR screen

- To clear the data:
Press the SERVICE button to move the > mark to YES, and press the TEST button. When clearing is finished, the COMPLETED message appears on the screen. Press the TEST button, in this instance, to return to the CONFIDENTIAL MISSION TEST MENU screen.
- Not to clear the data:
Press the SERVICE button to move the > mark to NO, and press the TEST button. This action enables you to immediately return to the CONFIDENTIAL MISSION TEST MENU screen.
- Even after you have cleared the backup data, the settings in the GAME ASSIGNMENTS and GUN ADJUSTMENT screens remain unchanged.
- Even after you have cleared the backup data, the coin- and credit-related data are not cleared. To clear the coin- and credit-related data, select the BACKUP DATA CLEAR item in the SYSTEM MENU screen and press the TEST button.

10. CONTROLLER



- In order to prevent an electric shock and short circuit, be sure to turn power off before performing work by touching the interior parts of the product.
- Be careful so as not to damage wirings. Damaged wiring can cause an electric shock or short circuit accident.
- Be very careful when soldering. Handling a soldering iron carelessly may result in a fire or a burn.



When securing the plastic-made parts, do not excessively fasten screws and nuts. Failure to observe this may damage the parts and cause injury due to fragments resulting from damage.

In the cases where the controller's operation is not satisfactory or the controller sight deviates from the direction in which the controller is pointed, the controller's interior parts may have been damaged. Replace the parts by disassembling the controller in the following procedure: Also, be sure to perform sighting check in the test mode when the controller parts are replaced.

REPLACING THE MICROSWITCH

- ① Disassemble the controller.
- ② Pull out the microswitch from COVER RIGHT.
- ③ Take out the microswitch by removing the soldering from it.
- ④ Bend the new Microswitch Actuator as shown.
- ⑤ Solder the new microswitch and assemble the controller.
- ⑥ By operating the Trigger, check if the Microswitch can be turned ON/OFF correctly.

REPLACING THE SENSOR UNIT

- ① Disassemble the controller.
- ② Remove the sensor unit from COVER.

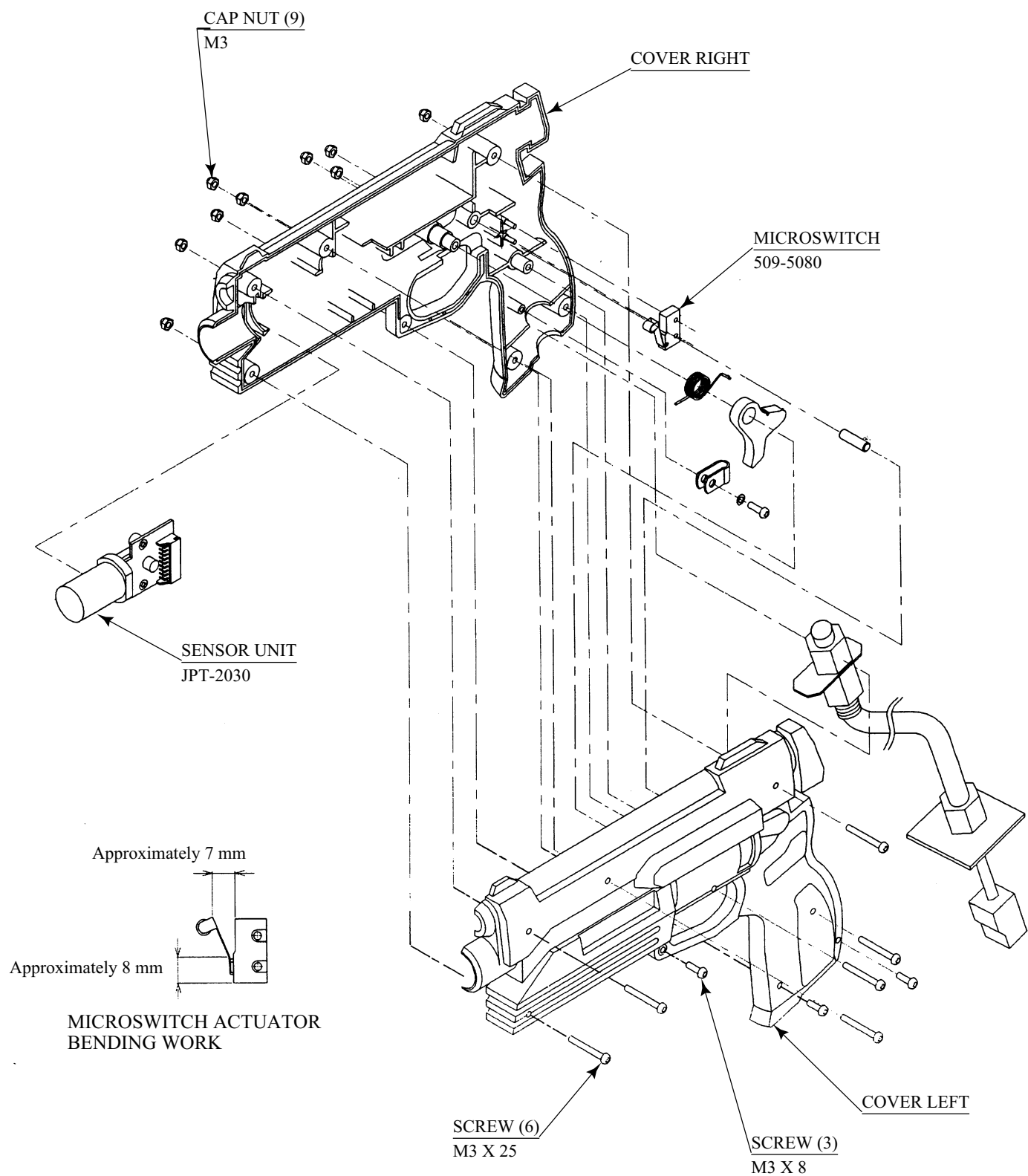


FIG.10

11. PROJECTOR



Since the Projector has been adjusted at the time of shipment, avoid making further adjustments without good reason.



The Projector is subject to color deviation due to Convergence deviation caused by the geomagnetism at the installation location and peripheral magnetic field. After the installation of machine, and before commencing operation, check for Convergence deviation and if deviated, make adjustments.

Projector adjustments are stored. Due to distortion or color deviation in the TEST mode, if an adjustment is necessary, use the Remote Control to make adjustments. There are two Projector Makers (Toshiba and Mitsubishi) and the adjustment method varies depending on the specific maker.

11 - 1 CLEANING THE SCREEN



Since the Projector screen is susceptible to damage, pay careful attention to its handling. When cleaning, refrain from using water or volatile chemicals.

When the screen surface becomes dirty with dust, etc., clean it by using a soft cloth such as gauze. When water, and volatile chemicals such as benzine, thinner, etc., spill on the screen surface, it may be subject to damage, therefore, do not use them. Also, since the surfaces are susceptible to damage, refrain from rubbing them with a hard material or using a duster.

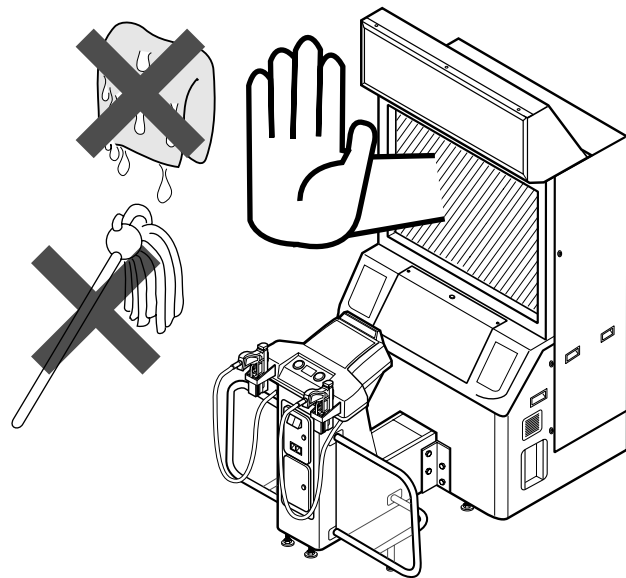


FIG. 11. 1

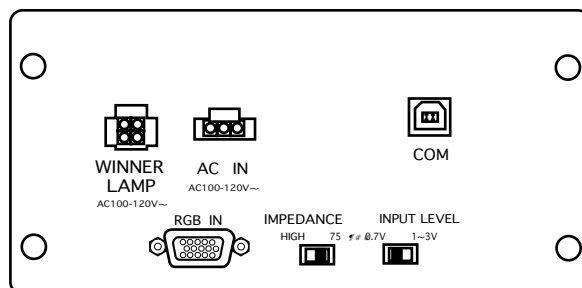
11 - 2 ADJUSTMENT OF TOSHIBA PROJECTOR

SETTING THE INTERFACE



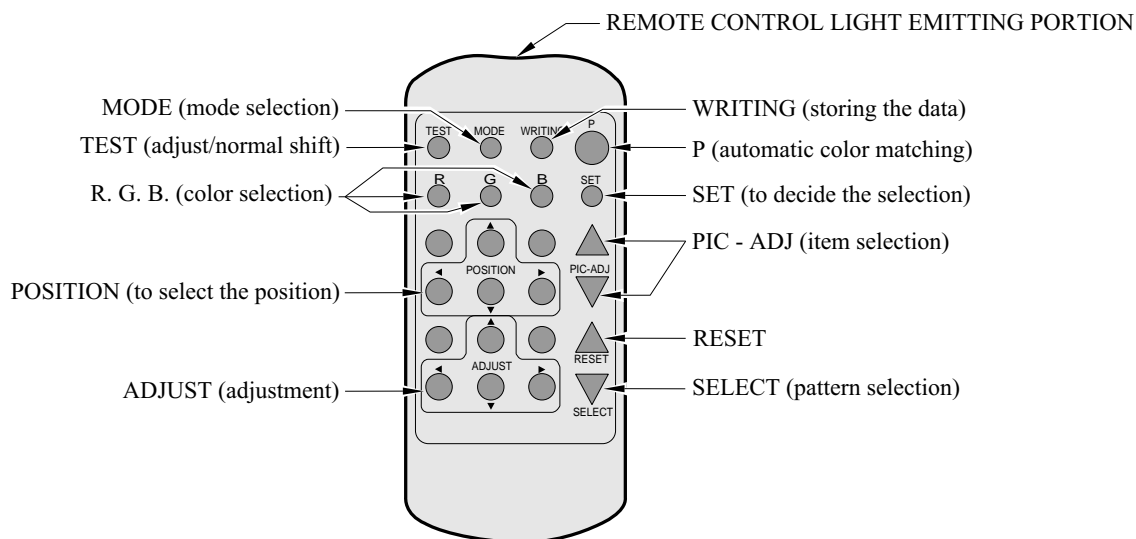
In this product, set to INPUT LEVEL: 0.7V and IMPEDANCE: 75Ω. Failure to observe this can cause CRT membrane to burn or Shutdown device to function resulting in power off.

The Projector's Connector Panel contains the Interface setting SW.



REMOTE CONTROL BUTTONS

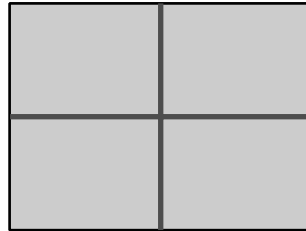
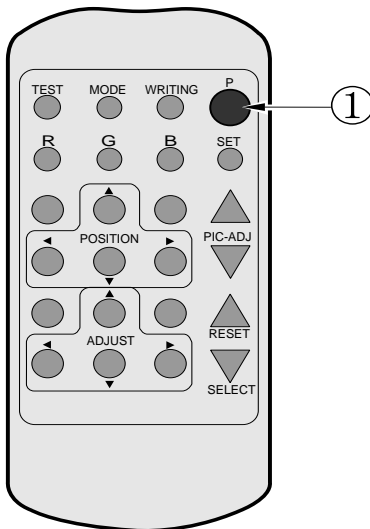
When adjusting the Projector, direct the Remote Control's light emitting portion towards the Projector Screen.



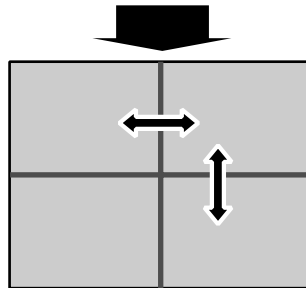
AUTOMATIC COLOR MATCHING

The Projector may be subject to color deviations affected by earth magnetism, the building steel frames, etc. When the Projector is initially installed or the Projector's installation position is changed, have the color matching performed automatically.

- ① Keep pressing the P button (red) for approximately 3 seconds to have the ensuing movements performed automatically.



The Projector will shift to the color deviation correction mode from the game mode, with the green cross pattern appearing on the screen.



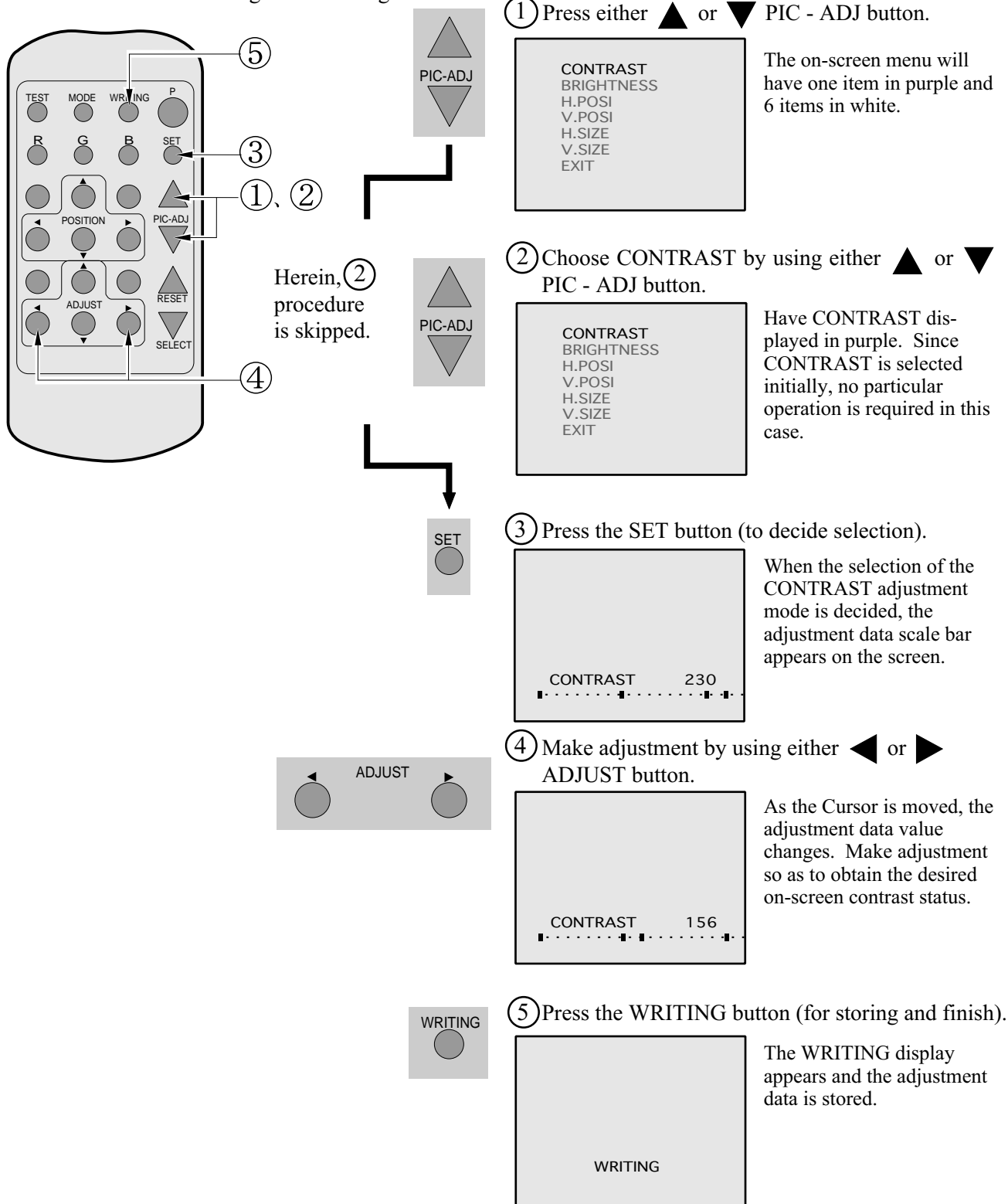
The cross pattern moves up/down and right/left to start the movement of searching the correct screen position and inclination.

When the green cross pattern movements are finished, similar detection is performed sequentially in order of red and then blue cross movements. After detecting by green, red and blue cross movements, the game mode returns with the color deviation status being corrected.

- Although very rarely, the TRY AGAIN error display in red may appear. At this time, press the P button (red) for approximately 3 seconds. Even after the above operation is repeated, if the error condition still exists, then the display shifts to PLEASE ADJ. In this case, the auto color matching function can not be used. Contact the place of contact herein stated or where the product was purchased from.
- If the automatic color matching indicates an error, color matching can manually be performed. Refer to CONVERGENCE ADJUSTMENT (manual color matching).

ADJUSTING THE ON-SCREEN CONTRAST

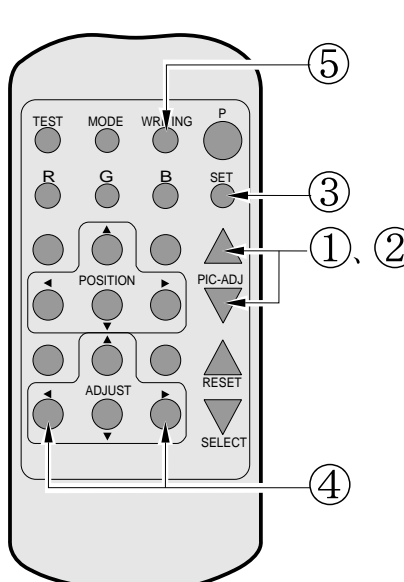
Although the on-screen picture quality has been adjusted at the time of shipment from the factory, the on-screen contrast can be readjusted if desired. When the Game Board is replaced, readjustment may be necessary. Changing the CONTRAST causes the light and shade of the on-screen images to be changed.



- When discontinuing the adjustment, choose EXIT from the menu at the stage of procedure ② and press the SET button.
- To continue adjusting other menu items, repeat procedure ② ~ ④.
- Unless the adjustment data is stored, the data in the adjusted status will be erased at the time the power is turned off and the pre-adjustment status will remain when the power is turned on next time.


ADJUSTING THE SCREEN BRIGHTNESS

Although the on-screen picture quality has been adjusted at the time of shipment from the factory, readjustment can be made if desired. When the Game Board is replaced, readjustment may be necessary. Changing the BRIGHTNESS causes the brightness of the on-screen images of black portions to be changed.




① Press either ▲ or ▼ PIC - ADJ button.

The on-screen menu will have one item in purple and 6 items in white.



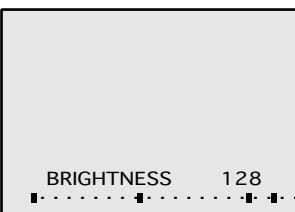
② Choose BRIGHTNESS by using either ▲ or ▼ PIC - ADJ button.

Have the BRIGHTNESS displayed in purple.



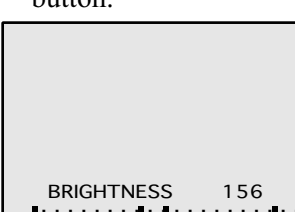
③ Press the SET button (to decide selection).

When the selection of the BRIGHTNESS adjustment mode is decided, the adjustment data scale bar appears on the screen.



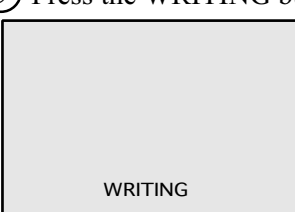
④ Make adjustment by using either ◀ or ▶ ADJUST button.

As the Cursor is moved, the adjustment data value changes. Make adjustment so as to obtain the desired on-screen brightness status.



⑤ Press the WRITING button (for storing and finish).

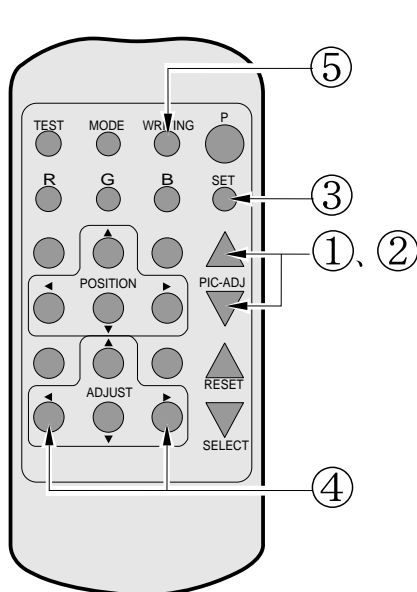
The WRITING display appears and the adjustment data is stored.



- When discontinuing the adjustment, choose EXIT from the menu at the stage of procedure ② and press the SET button.
- To continue adjusting other menu items, repeat procedure ②~④.
- Unless the adjustment data is stored, the data in the adjusted status will be erased at the time the power is turned off and the pre-adjustment status will remain when the power is turned on next time.

ADJUSTING THE ON-SCREEN DISPLAY POSITION

Although the on-screen display position (H. POSI, V. POSI) has been adjusted at the time of shipment from the factory, readjustment can be made if desired. When the Game Board is replaced, readjustments may be necessary.

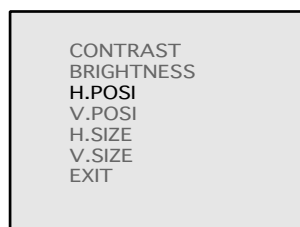


- ① Press either ▲ or ▼ PIC - ADJ button.



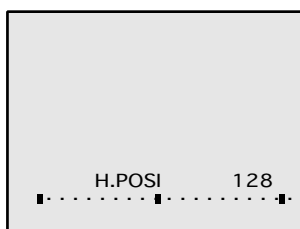
The on-screen menu will have one item in purple and 6 items in white.

- ② Choose H. POSI or V. POSI by using either ▲ or ▼ PIC ADJ button.



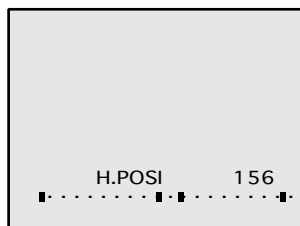
Have the H. POSI or V. POSI displayed in purple. The Figure shows the status in which H. POSI is selected.

- ③ Press the SET button (to decide selection).



When the selection of the H. POSI or V. POSI is decided, the adjustment data scale bar appears on the screen.

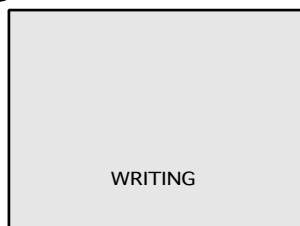
- ④ Make adjustment by using either ◀ or ▶ ADJUST button.



As the Cursor is moved, the adjustment data value changes. Make adjustment so as to obtain the desired on-screen position status.

When making adjustments in vertical directions, also use either ◀ or ▶ ADJUST button.

- ⑤ Press the WRITING button (for storing and finish).

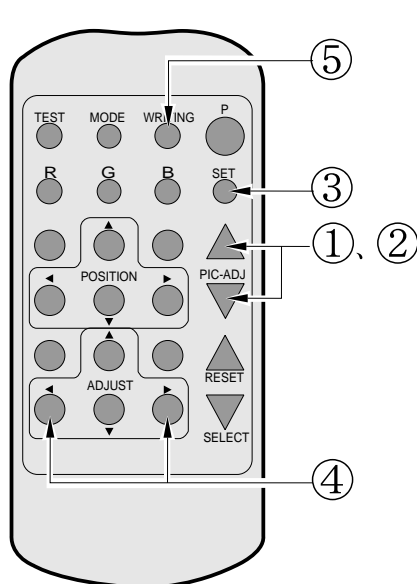


The WRITING display appears and the adjustment data is stored.

- When discontinuing the adjustment, choose EXIT from the menu at the stage of procedure ② and press the SET button.
- To continue adjusting other menu items, repeat procedure ② ~ ④.
- Unless the adjustment data is stored, the data in the adjusted status will be erased at the time the power is turned off and the pre-adjustment status will remain when the power is turned on next time.

ADJUSTING THE SCREEN SIZE

Although the on-screen size (H. SIZE, V. SIZE) has been adjusted at the time of shipment from the factory, readjustment can be made if desired. When the Game Board is replaced, readjustments may be necessary.



① Press either ▲ or ▼ PIC - ADJ button.



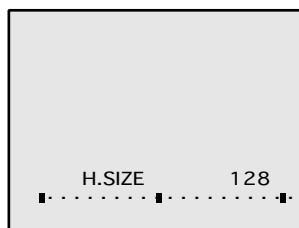
The on-screen menu will have one item in purple and 6 items in white.

② Choose H. SIZE or V. SIZE by using either ▲ or ▼ PIC - ADJ button.



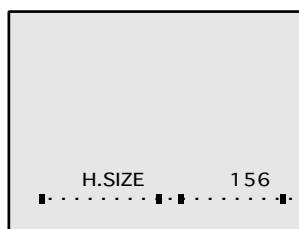
Have the H. SIZE or V. SIZE displayed in purple. The Figure shows the status in which H. SIZE is selected.

③ Press the SET button (to decide selection).

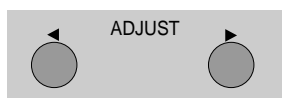


When the selection of the H. SIZE or V. SIZE adjustment mode is decided, the adjustment data scale bar appears on the screen.

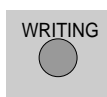
④ Make adjustment by using either ◀ or ▶ ADJUST button.



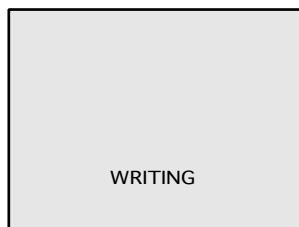
As the Cursor is moved, the adjustment data value changes. Make adjustment so as to obtain the desired on-screen position status.



When making adjustments in vertical directions, also use either ◀ or ▶ button.



⑤ Press the WRITING button (for storing and finish).



The WRITING display appears and the adjustment data is stored.

- When discontinuing the adjustment, choose EXIT from the menu at the stage of procedure ② and press the SET button.
- To continue adjusting other menu items, repeat procedure ②~④.
- Unless the adjustment data is stored, the data in the adjusted status will be erased at the time the power is turned off and the pre-adjustment status will remain when the power is turned on next time.

CONVERGENCE ADJUSTMENT (manual color matching)



To avoid circuitry malfunctioning due to electrical load increase, never utilize CONVERGENCE ADJUSTMENT (Line Convergence Adjustment in particular) for adjusting screen size changes.

There is no means to restore the Convergence Adjustment data once stored, to its original state. To avoid changing the screen size by erroneously using convergence adjustment, do not perform the green Line Convergence Adjustment.

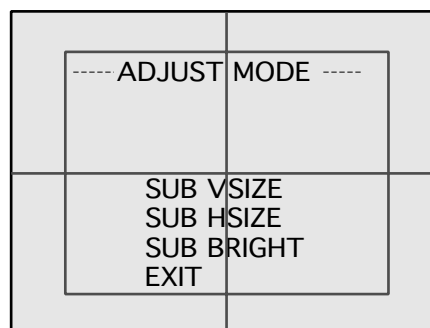
As such, be sure to perform the adjustment work from this page onward by the Technical staff and the location's Maintenance Personnel who are well versed in such adjustment work. In the Static Convergence Adjustments, if satisfactory adjustments can not be performed, do not make another convergence adjustments inadvertently. Contact the office herein stated or where the product was purchased from.



- To avoid making the adjustment work ineffective, do not press the RESET button during adjustment.
- To discontinue adjustment work, keep pressing the TEST button for approximately 3 seconds at the stage before storing the adjustment data by pressing the WRITING button.
- Should the screen be abnormally disturbed by noise due to static electricity, etc., turn the power off without storing the adjustment data.
- Pressing the ▲ or ▼ PIC - ADJ button in the Convergence Adjustment mode status will display the Adjustment Menu shown right. Do not utilize this Adjustment Menu as this is the one applied at the factory.

Adjusting this menu causes the Customer's adjustment range to be deviated.

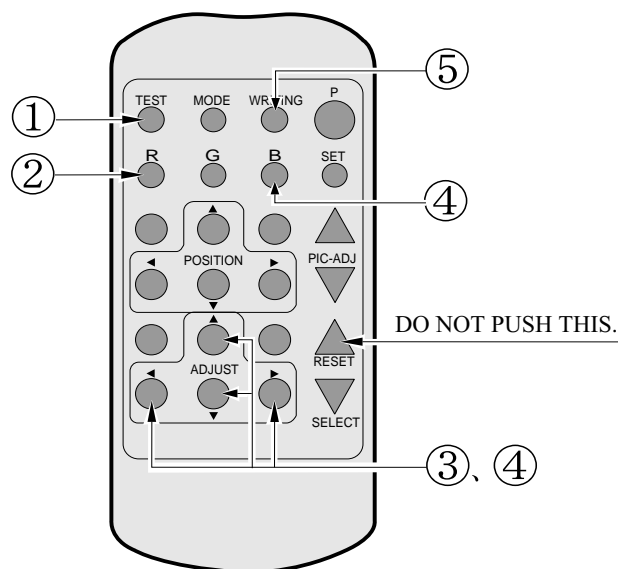
Should the menu shown right be displayed by mistake, first choose EXIT by using either ▲ or ▼ PIC - ADJ button and then press the SET button.



Adjustment menu used in the factory.

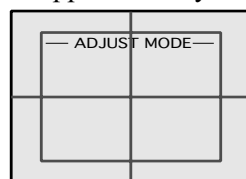
STATIC CONVERGENCE ADJUSTMENT

In the static convergence adjustment, each of red and blue images is comprehensively moved to and superimposed on the green color. If automatic color matching function is not sufficiently satisfactory, perform this adjustment. Be sure to perform automatic color matching before starting the above adjustment.



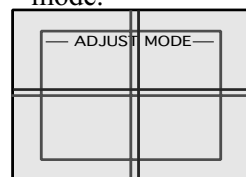
When either of ② ④ COLOR SELECT buttons (R, B) is pressed, if the color desired to be adjusted disappears, press that particular button again. For example, if the red color needs to be adjusted again at the stage of ④, the R button need to be pressed twice.

- ① Keep pressing the TEST button for approximately 3 seconds.



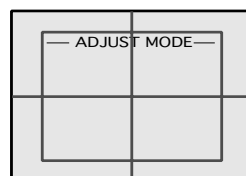
The screen will change to ADJUST mode from the Game mode to cause the green test pattern to be displayed on the screen.

- ② Press the R button to have the red adjustment mode.



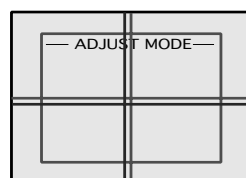
The red test pattern is added to the display. The frame color turns red and this signifies the red adjustment mode.

- ③ Make adjustment by using the ▲ ▼ ◀ ▶ ADJUST buttons.



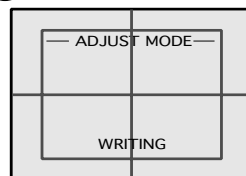
Make adjustment so as to have red superimposed on green. When red is superimposed on green, the color becomes yellow.

- ④ Press the B button to have the blue adjustment mode.



Similarly as in the case of red, adjust the blue color. When green, red, and blue are superimposed, the color becomes white.

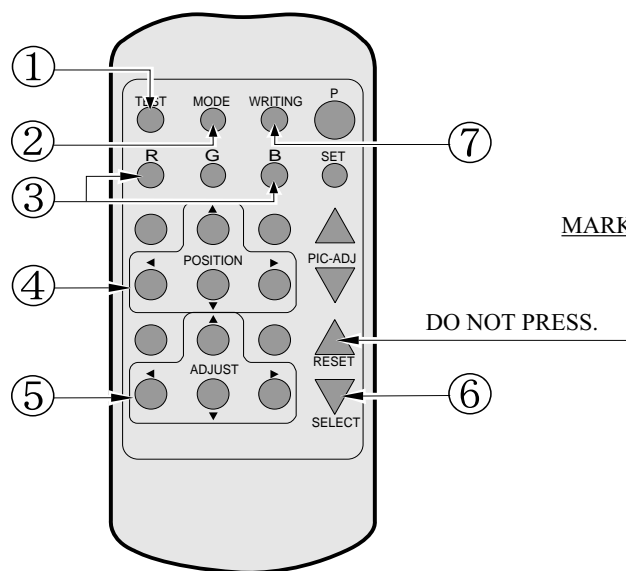
- ⑤ Press the WRITING button (for storing and finish).



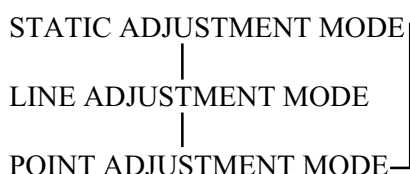
The WRITING display appears and the adjustment data is stored. After the data is stored, the Game mode returns.

POINT CONVERGENCE ADJUSTMENT

In the POINT CONVERGENCE adjustment, each of red, green and blue images is partially moved for color matching. The adjustment may be necessary when the Game Board is replaced or changed, or screen size is changed. Be sure to perform automatic color matching before starting the adjustment.



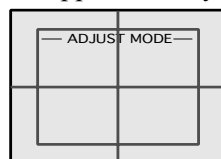
Note 1 When the MODE button is repeatedly pressed, the adjustment modes will circulate as follows:



Note 2 When either of the COLOR SELECT buttons (R, B) is pressed, if the desired color to be adjusted disappears, press that particular button again.

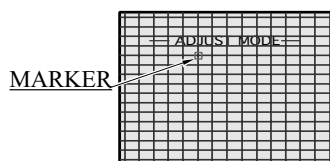
Note 3 By repeatedly pressing the SELECT button, only the Projector's TEST pattern screen and the screen superimposing the Game Board test pattern can be alternately displayed.

- Keep pressing the TEST button for approximately 3 seconds.



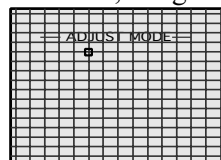
The screen changes to ADJUST mode from the Game mode and displays the green test pattern.

- Press the MODE button twice to have the POINT ADJUSTMENT mode. Note 1



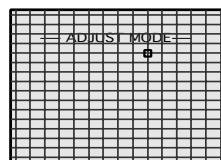
The crosshatch test pattern appears and the MARKER indicating the adjustment point is displayed.

- Using either R or B button, select the desired color to be adjusted. Note 2 By using the G button, the green color can also be selected.



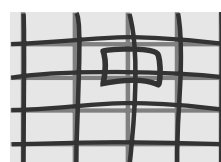
The selected color is displayed by superimposing on green. The MARKER will be in the color selected.

- By using the ▲ ▼ ◀ ▶ ADJUST buttons, move the MARKER to the position to be adjusted.



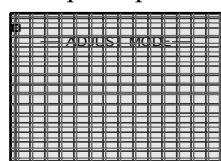
The MARKER moves in the direction of the button's arrow. However, the movable point is predetermined.

- Make adjustment by using the ▲ ▼ ◀ ▶ ADJUST buttons.



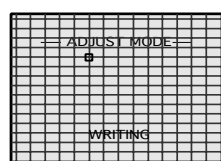
Although the direct vicinity of the MARKER's center moves most conspicuously, make adjustment by paying attention to the periphery area also. Shown left is the magnified MARKER periphery.

- Press the SELECT button as necessary to superimpose Game Board images. Note 3



If the test pattern is not displayed in the periphery of the screen, adjustments can be made by pressing the SELECT button to superimpose the test pattern and the Game Board's CRT test screen.

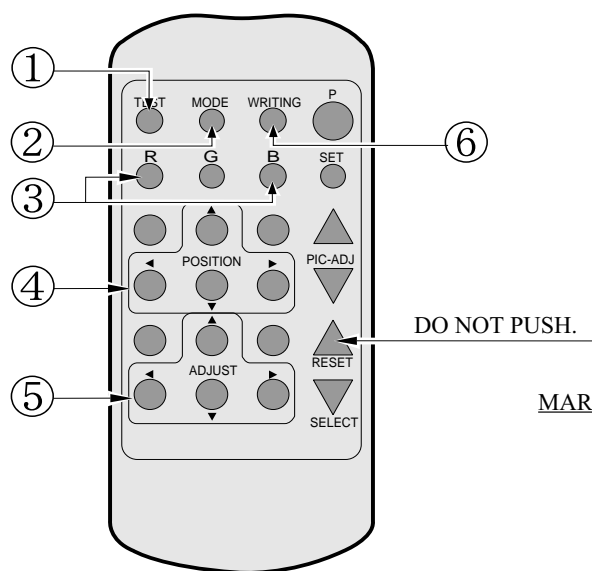
- Press the WRITING button (for storing and finish).



WRITING is displayed and the adjustment data is stored. After the data is stored, the Game Board screen returns.

LINE CONVERGENCE ADJUSTMENT

In the LINE CONVERGENCE ADJUSTMENT, the adjustment point of the column line (vertical) or row line (horizontal) is comprehensively moved for color matching. It is convenient to utilize this adjustment when the color of the column line or row line is uniformly deviated.

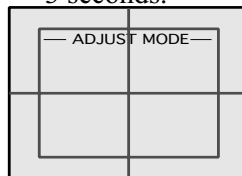


Note 1 When the MODE button is repeatedly pressed, the adjustment modes will circulate as follows:

STATIC ADJUSTMENT MODE
|
LINE ADJUSTMENT MODE
|
POINT ADJUSTMENT MODE

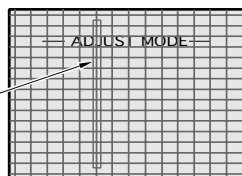
Note 2 When either of the COLOR SELECT buttons (R, B) is pressed, if the desired color to be adjusted disappears, press that particular button again.

- ① Keep pressing the TEST button for approximately 3 seconds.



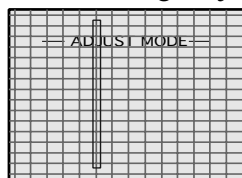
The screen changes to ADJUST mode from the Game Board mode and displays the green test pattern.

- ② Press the MODE button once to have the POINT ADJUSTMENT mode. Note 1



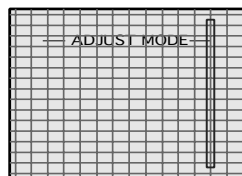
The crosshatch test pattern appears and the vertically long MARKER is shown.

- ③ Using either R or B button, select the desired color to be adjusted. Note 2 Although the green color can also be selected by using the G button, to avoid the screen size change adjustment, do not choose green.

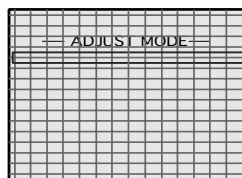


The selected color is displayed by superimposing on green. The MARKER will be in the color selected.

- ④ By using the ▲ ▼ ◀ ▶ POSITION buttons, move the MARKER to the position to be adjusted.

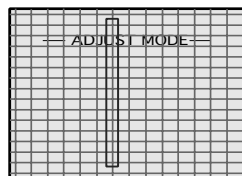


Use the ◀ ▶ buttons to select the column line, and the MARKER moves in the right/left direction. However, the movable range is predetermined.



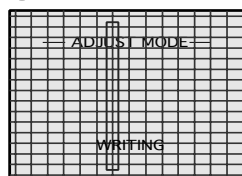
Use the ▲ ▼ buttons to select the row line and the MARKER moves in the up/down direction. However, the movable range is predetermined.

- ⑤ Make adjustment by using the ▲ ▼ ◀ ▶ ADJUST buttons.



The selected column line or row line (shown left is the column line) can be moved in the desired up/down or right/left directions as applicable.

- ⑥ Press the WRITING button (for storing and finish).



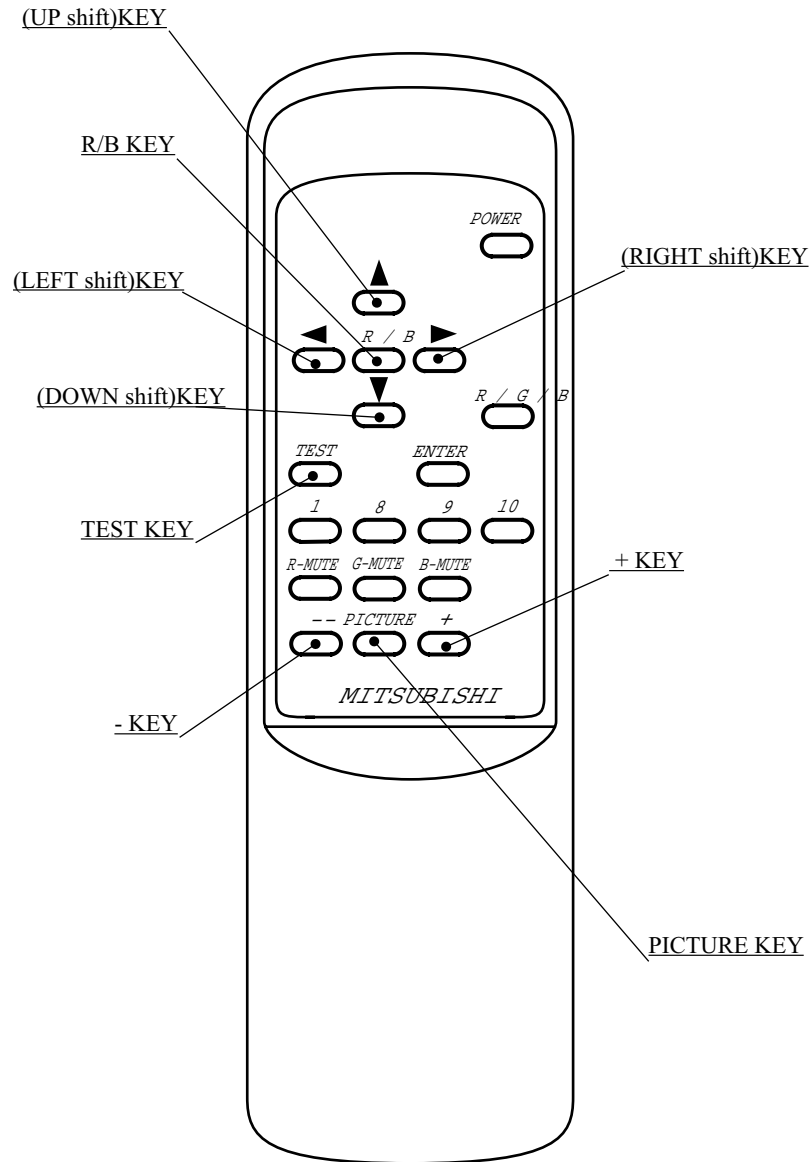
WRITING is displayed and the adjustment data is stored. After the data is stored, the Game Board screen returns.



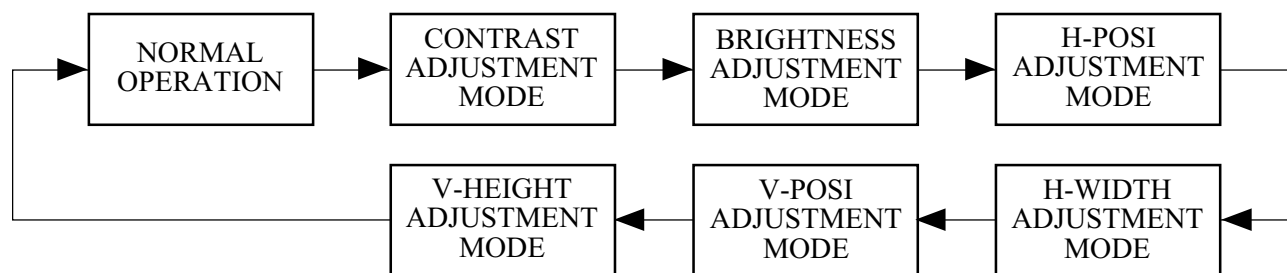
- For the operation of Remote Control, use only the Keys of R/B, ▲ (UP shift), ◁ (LEFT shift), ▼ (DOWN shift), ▷ (RIGHT shift), TEST, -, +, and PICTURE. Do not press keys other than those explained in this manual.
- When operating the Remote Control, have it point the screen.

The Projector has DYNAMIC CONVERGENCE adjustment functions. This manual does not refer to the functions as the adjustment of DYNAMIC CONVERGENCE is very troublesome and in addition, visual effects are negligible.

Very rarely, you cannot solve a color-shift problem even with the adjustment procedure described below. If this is the case, contact where you have procured the projector and ask for further information on the adjustment method.



- POWER KEY This does not have power ON/OFF function.
Does not function even if it is pressed.
- R/B KEY Used to select "R" for red adjustment or "B" for blue adjustment in the
STATIC CONVERGENCE ADJUSTMENT mode.
- ▲ (UP shift) KEY Used to move the test cross upward in the STATIC CONVERGENCE
ADJUSTMENT mode.
- ◁ (LEFT shift) KEY Used to move the test cross to the left in the STATIC CONVERGENCE
ADJUSTMENT mode.
- ▼ (DOWN shift) Used to move the test cross downward in the STATIC CONVERGENCE
ADJUSTMENT mode.
- ▷ (RIGHT shift) KEY Used to move the test cross to the right in the STATIC CONVERGENCE
ADJUSTMENT mode.
- TEST KEY This is the ON/OFF key in the STATIC CONVERGENCE ADJUSTMENT
mode. In the ON status of this key, the test cross pattern appears in the
approximately on-screen center.
- ENTER KEY Used for DYNAMIC CONVERGENCE.
- KEY Used to decrease the adjustment data in the adjustment mode of CON-
TRAST, BRIGHTNESS, HORIZONTAL/VERTICAL POSITIONS and
WIDTH.
- + KEY Used to increase the adjustment data in the adjustment mode of CON-
TRAST, BRIGHTNESS, HORIZONTAL/VERTICAL POSITIONS and
WIDTH.
- PICTURE KEY Used for the ADJUSTMENT mode of CONTRAST, BRIGHTNESS, HORI-
ZONTAL/VERTICAL POSITIONS and WIDTH.
Every time this key is pressed, the ADJUSTMENT mode proceeds as
follows:



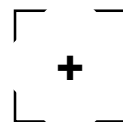
EXPLANATIONS OF ADJUSTMENT MODES

- CONTRAST Used to vary image contrast. Use + and - keys to adjust.
- BRIGHTNESS Used to change image brightness. Use + and - keys to adjust.
- H-POSI Used to move the image position in the horizontal direction. Use + and - keys to
adjust.
- H-WIDTH Used to change the horizontal width of image. Use + and - keys to adjust.
- V-POSI Used to move the image position in the vertical direction. Use + and - keys to
adjust.
- V-HEIGHT Used to change the vertical width of image. Use + and - keys to adjust.

STATIC CONVERGENCE ADJUSTMENT

Press the TEST KEY to change the screen to Red Line Adjustment mode.

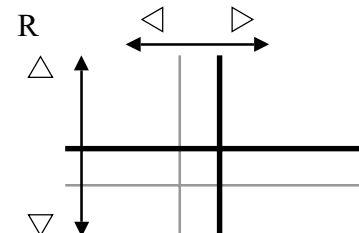
RED 31K
H:+75 V:-11



Superimpose the red line on the green line.
When the red line is superimposed on the green line, the green line turns to yellow or white.

To MOVE RED LINE:

- Use ◁ key to move it left.
- Use ▷ key to move it right.
- Use ▲ key to move it upward.
- Use ▼ key to move it downward.

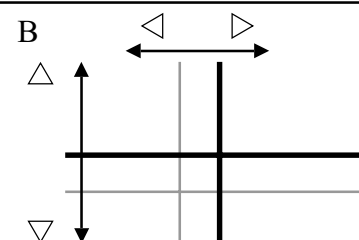


Press the R/B KEY.
Changes to the Blue Line Adjustment screen.
Every time the key is pressed, "from red to blue" and "from blue to red" are alternated.

SUPERIMPOSING BLUE LINE ON GREEN LINE:
Superimposing blue line on green line causes the green line to turn to white.

TO MOVE BLUE LINE:

- Use ◁ key to move it left.
- Use ▷ key to move it right.
- Use ▲ key to move it upward.
- Use ▼ key to move it downward.



Press the TEST KEY.
Adjustment is finished.

AUTOMATIC CANCELLATION OF ADJUSTMENT MODE

In each adjustment mode, only in the case where an effective key input (variation of values and images) is not performed within the time limit indicated below, the adjustment mode is automatically cancelled and finished, shifting to on-screen normal images.

Approximately 6 seconds CONTRAST
BRIGHTNESS
H-POSI
H-WIDTH
V-POSI
V-HEIGHT

Approximately 5 min. STATIC CONVERGENCE

12. COIN SELECTOR

HANDLING THE COIN JAM

If the coin is not rejected when the REJECT button is pressed, open the coin chute door and open the selector gate. After removing the jammed coin, put a normal coin in and check to see that the selector correctly functions.

CLEANING THE COIN SELECTOR



- Remove and clean smears by using a soft cloth dipped in water or diluted chemical detergent and then squeezed dry.
- Never apply machine oil, etc. to the Coin Selector.
- After cleaning the Coin Selector, insert a regular coin in the normal working status and ensure that the Selector correctly functions.

The coin selector should be cleaned once every 3 months. When cleaning, follow the procedure below:

- ① Turn the power for the machine OFF. Open the coin chute door.
- ② Open the gate and dust off by using a soft brush (made of wool, etc.).
- ③ Remove and clean smears by using a soft cloth dipped in water or diluted chemical detergent and then squeezed dry.
- ④ Remove the CRADLE.
When removing the retaining ring (E ring), be very careful so as not to bend the rotary shaft.
- ⑤ Remove stain from the rotary shaft and shaft receiving portions by wiping off with a soft cloth, etc.
- ⑥ After wiping off as per ⑤ above, further apply a dry cloth, etc. to cause the coin selector to dry completely.

COIN INSERTION TEST

Once every month, when performing the Coin SW Test, simultaneously check the following:

- ☐ Does the Coin Meter count satisfactorily?
- ☐ Does the coin drop into the Cashbox correctly?
- ☐ Is the coin rejected when inserted while keeping the Reject Button pressed down?

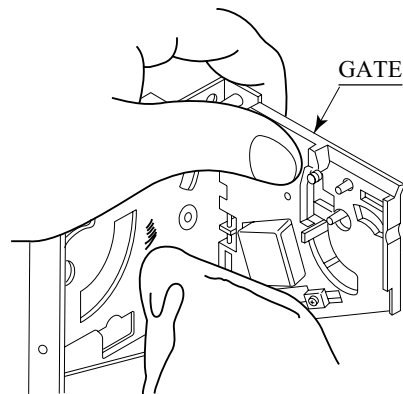


FIG. 12 a

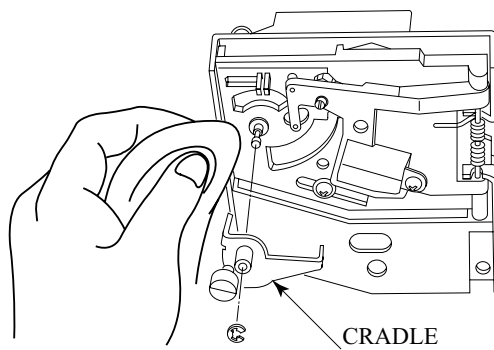


FIG. 12 b

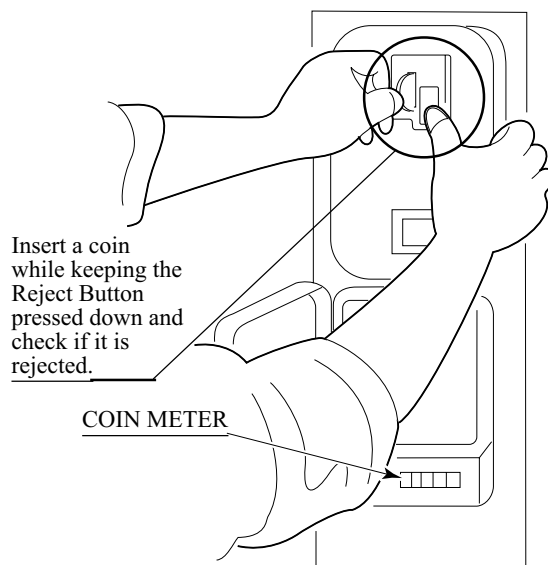


FIG. 12 c

OPTIONAL DOLLAR BILL ACCEPTOR

- THE COIN DOOR ASSEMBLY USED ON **CONFIDENTIAL MISSION STD** COMES EQUIPPED TO ACCEPT A DOLLAR BILL ACCEPTOR. ALL NEEDED WIRING CONNECTIONS ARE CONVENIENTLY LOCATED INSIDE THE GAME FOR THIS APPLICATION.
- THE COIN DOOR CAN ACCCOMMODATE THE FOLLOWING VALIDATOR(S):

FORWARD-MOST
HOLE POSITION

Mars 2000 series

**42-1155-00 MARS VALIDATOR \$1, 2, 5 300 CAP

The frame and cashbox enclosure on this coindoor has been modified to accomodate a Mars 2000 series upstacker. A 2000 series stacker can be added by simply removing the cut-out plate. This one entry door can be ordered through Happ Controls or one of Happ Controls authorized distributors. The part number is 40-6000-10EX. The Mars stacker can be obtained through an authorized Mars distributor.

Note: Your game may have either Happ Controls Coin Door Assembly or the Wells Gardner Coin Door Assembly (not shown).

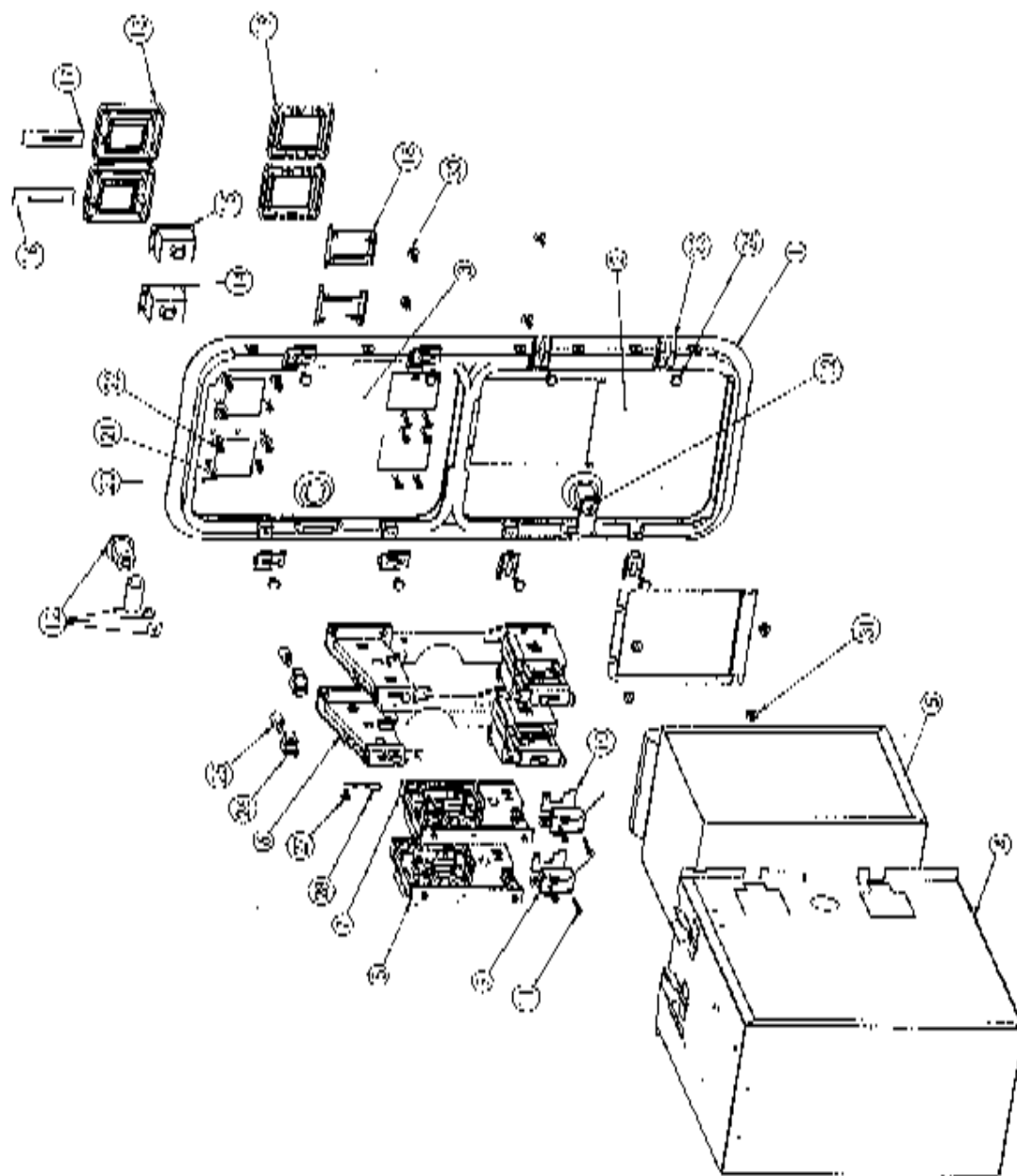
**Happ part number

Security Locking Bar/Bracket Set Part No.# 999-0966

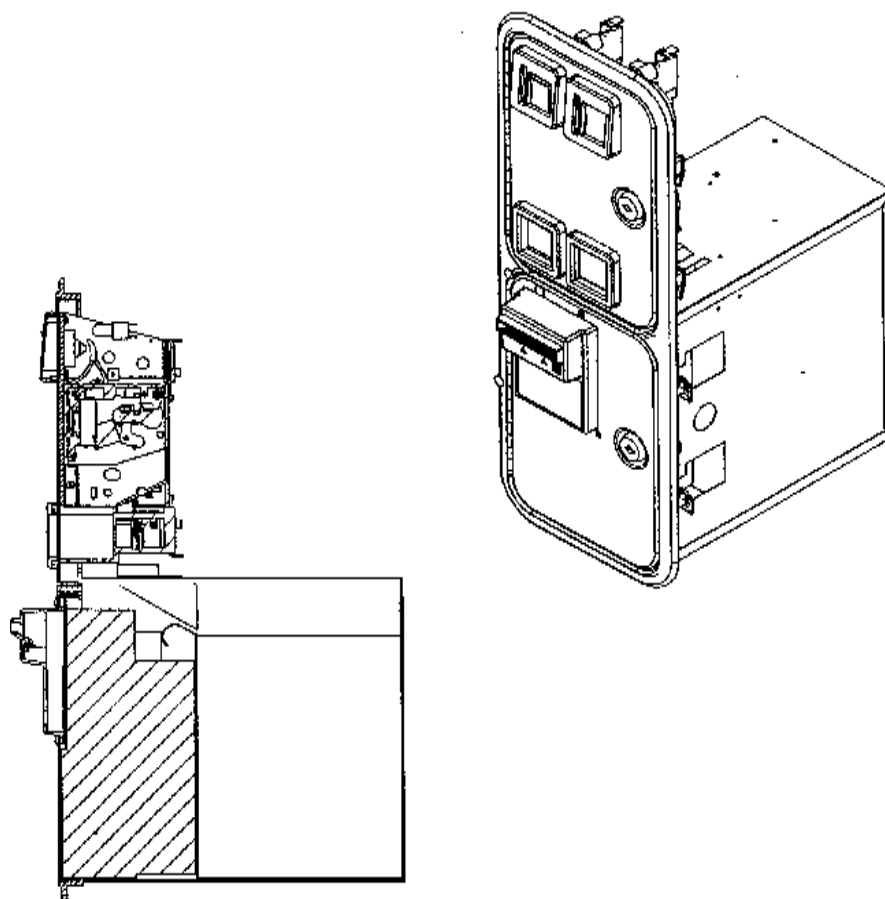
40-6000-10EX

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	40-6000-10	BASE CARRIER, EXCAVATOR WORK
2	1	40-6000-10	DOOR FRAME, EXCAVATOR WORK
3	1	40-6000-10	DOOR FRAME, EXCAVATOR WORK
4	1	40-6000-10	DOOR FRAME, EXCAVATOR WORK
5	1	40-6000-10	DOOR FRAME, EXCAVATOR WORK
6	1	40-6000-10	DOOR FRAME, EXCAVATOR WORK
7	1	40-6000-10	DOOR FRAME, EXCAVATOR WORK
8	1	40-6000-10	DOOR FRAME, EXCAVATOR WORK
9	1	40-6000-10	DOOR FRAME, EXCAVATOR WORK
10	1	40-6000-10	DOOR FRAME, EXCAVATOR WORK
11	1	40-6000-10	DOOR FRAME, EXCAVATOR WORK
12	1	40-6000-10	DOOR FRAME, EXCAVATOR WORK
13	1	40-6000-10	DOOR FRAME, EXCAVATOR WORK
14	1	40-6000-10	DOOR FRAME, EXCAVATOR WORK
15	1	40-6000-10	DOOR FRAME, EXCAVATOR WORK
16	1	40-6000-10	DOOR FRAME, EXCAVATOR WORK
17	1	40-6000-10	DOOR FRAME, EXCAVATOR WORK
18	1	40-6000-10	DOOR FRAME, EXCAVATOR WORK
19	1	40-6000-10	DOOR FRAME, EXCAVATOR WORK
20	1	40-6000-10	DOOR FRAME, EXCAVATOR WORK
21	1	40-6000-10	DOOR FRAME, EXCAVATOR WORK
22	1	40-6000-10	DOOR FRAME, EXCAVATOR WORK
23	1	40-6000-10	DOOR FRAME, EXCAVATOR WORK
24	1	40-6000-10	DOOR FRAME, EXCAVATOR WORK
25	1	40-6000-10	DOOR FRAME, EXCAVATOR WORK
26	1	40-6000-10	DOOR FRAME, EXCAVATOR WORK
27	1	40-6000-10	DOOR FRAME, EXCAVATOR WORK
28	1	40-6000-10	DOOR FRAME, EXCAVATOR WORK
29	1	40-6000-10	DOOR FRAME, EXCAVATOR WORK
30	1	40-6000-10	DOOR FRAME, EXCAVATOR WORK
31	1	40-6000-10	DOOR FRAME, EXCAVATOR WORK
32	1	40-6000-10	DOOR FRAME, EXCAVATOR WORK
33	1	40-6000-10	DOOR FRAME, EXCAVATOR WORK
34	1	40-6000-10	DOOR FRAME, EXCAVATOR WORK
35	1	40-6000-10	DOOR FRAME, EXCAVATOR WORK
36	1	40-6000-10	DOOR FRAME, EXCAVATOR WORK
37	1	40-6000-10	DOOR FRAME, EXCAVATOR WORK

NOTE
KEY IS PART OF 40-6000-10, NOT SHOWN



****Coin door shown with optional dollar bill validator inserted****



13. REPLACING THE FLUORESCENT LAMP, AND LAMPS



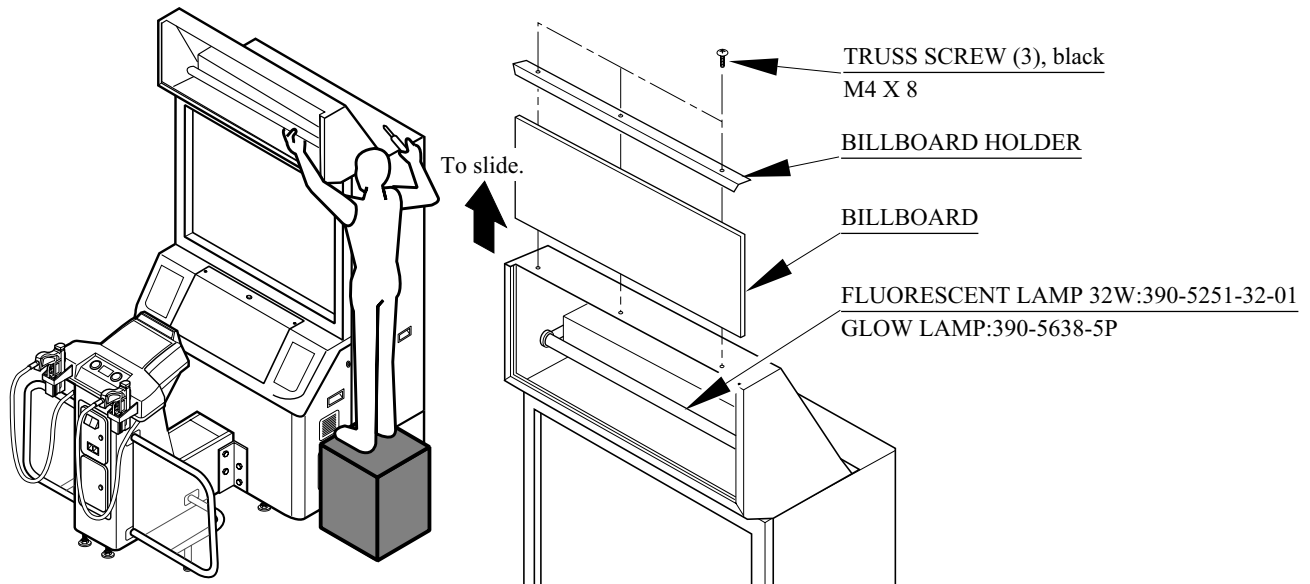
- When performing work, be sure to turn power off. Working with power on can cause electric shock and short circuit hazards.
- The Fluorescent Lamp, when it gets hot, can cause burn. Be very careful when replacing the Fluorescent Lamp.
- Be sure to use lamps of the designated rating. Using lamps of undesigned rating can cause a fire or malfunctioning.



- To perform work safely and securely, be sure to prepare a step which is in a secure and stable condition. Performing work without using the step can cause violent falling down accidents.
- Be careful when handling the plastic made parts. Failure to observe this may cause injury due to damage or fragments resulting from damage.

INSIDE THE BILLBOARD

Remove the billboard holder, slide up the billboard, and replace the fluorescent tube.



When performing work,
prepare a step.

FIG. 13 a

LAMP REPLACEMENT

- ① Take out the 8 screws and remove Control Panel STD.

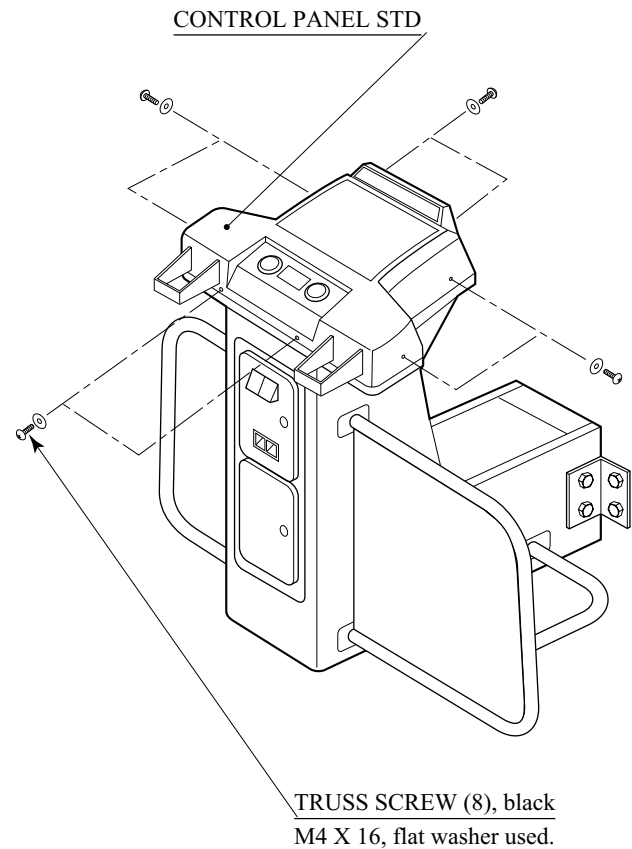


FIG. 13 c

- ② Hold both sides of the switch portion with fingers and pull out from the button's base portion. At this time, be careful so as not to damage the wiring connected to the switch.
- ③ The lamp is positioned at the end of the switch portion. Pull out the lamp straight without turning it.

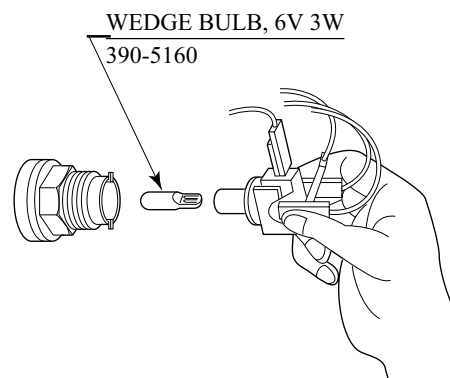


FIG. 13 c

14. PERIODIC INSPECTION TABLE

The items listed below require periodic check and maintenance to retain the performance of this machine and to ensure safe business operation.

When handling the controller, the player will be in direct contact with it . In order to always allow the player to enjoy the game, be sure to clean it regularly. Also, it is advisable to provide wet tissue, etc. available for player use.



- Be sure to check once a year to see if Power Cords are damaged, the plug is securely inserted, dust is accumulated between the Socket Outlet and the Power Plug, etc. Using the product with dust as is accumulated can cause fire and electric shock hazards.
- Periodically once a year, request the place of contact herein stated or the Distributor, etc. where the product was purchased from, as regards the internal cleaning. Using the product with dust as is accumulated in the interior without cleaning can cause a fire or accident. Note that cleaning the interior parts can be performed on a pay-basis.

TABLE 14

	Item	Interval	Reference
CABINET	Check Adjusters'contact with surface.	Daily	3
CONTROLLER	Cleaning	As necessary	
	Sight check	Weekly	9,10
	Check SWes.	Monthly	9,10
COIN CHUTE DOOR	Check COIN SW.	Monthly	9
	Coin insertion test.	Monthly	12
	Cleaning of COIN SELECTOR.	Trimonthly	12
PROJECTOR	SCREEN cleaning.	Weekly	11-1
	Check adjustments.	Monthly or when moving.	6,9,11
GAME BD	MEMORY TEST.	Monthly	9,*GD-ROM
	Check settings.	Monthly	9,*GD-ROM
INTERIOR	Cleaning	Annually	See above.
POWER SUPPLY PLUG	Inspection and cleaning		
Cabinet surfaces	Cleaning	As necessary.	See below.

*The 'GD-ROM' above indicates the GD-ROM SERVICE MANUAL

CLEANING THE CABINET SURFACES

When the cabinet surfaces are badly soiled, remove stains with a soft cloth dipped in water or diluted (with water) chemical detergent and squeezed dry. To avoid damaging surface finish, do not use such solvents as thinner, benzine, etc. or abrasives, bleaching agent and chemical dustcloth.

15. TROUBLESHOOTING



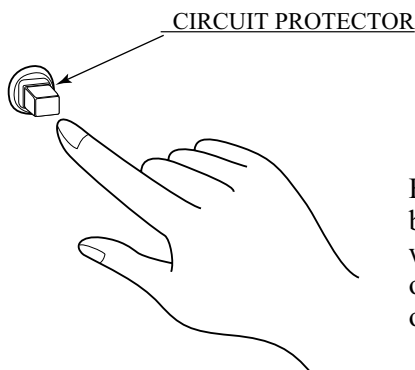
- In order to prevent electric shock and short circuit, be sure to turn power off before performing work.
- Be careful so as not to damage wirings. Damaged wiring can cause electric shock or short circuit.
- After removing the cause of the functioning of the Circuit Protector, reinstate the Circuit Protector. Depending on the cause of the functioning, using the Circuit Protector as is without removing the cause can cause generation of heat and fire hazard.

In case a problem occurs, first check wiring connector connections.

TABLE 15 a

PROBLEMS	CAUSE	COUNTERMEASURES
With Main SW ON, no activation.	Power is not supplied.	Securely insert the power plug into the plug socket.
	Power supply/voltage is not correct.	Make sure that power supply/voltage is correct.
	The Circuit Protector functioned due to the momentary overload.	After eliminating the cause of overload, reinstate the AC Unit's Circuit Protector (see [5], Section 6, Refer to the following).
The color on PTV screen is incorrect.	Image adjustment is inappropriate.	Adjust appropriately (see Sec.11).
Color deviation on PTV screen.	Affected by peripheral machines or the building's steel frames.	Perform convergence adjustment (see Sec. 11).
		Change installation direction or position.
		Move the machine which causes the problem.

CIRCUIT PROTECTOR



Functions due to the activation of bimetal. To restore the function, wait for approximately one minute or longer until the bimetal cools off. (Press the Button.)

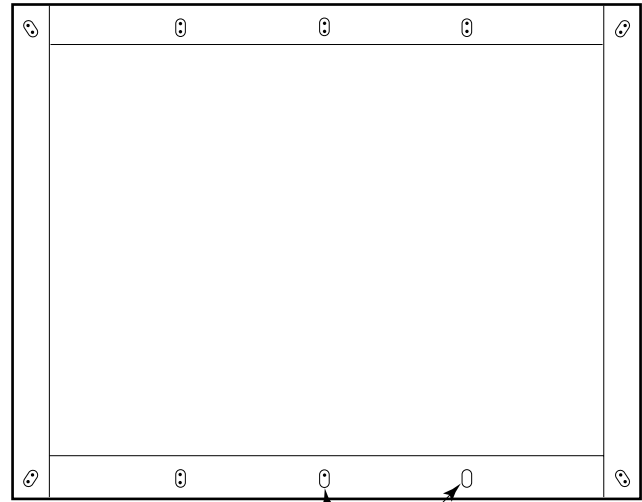
FIG. 15 a

TABLE 15 b

PROBLEMS	CAUSE	COUNTERMEASURES
No sound is emitted.	Sound volume adjustment is not appropriate. Board and Amplifier malfunctioning.	Adjust sound volume (see Sec. 9). Perform the sound test and confirm (see GD-ROM SERVICE MANUAL).
Controller sighting is not satisfactory.	Due to environmental changes, etc., sighting became inappropriate. LED BD malfunctioning. Sensor Unit malfunctioning. LED board and LED board cover are contaminated.	Perform sighting adjustment in the test mode (see Sec. 9). Check to ensure that the LED lights up. If it does not light up, replace (see next page). Replace the Sensor Unit (see Sec.10). Wipe off soiled surfaces (see Sec. 14 and next page).
During game play, the Controller is not operable for shooting.	Malfunctioning of microswitch. Malfunctioning of LED BD. Malfunctioning of Sensor Unit.	Check for ON and OFF in the INPUT test and if it is not functioning, replace the microswitch (see Sec.10). Check if the LED is lit, and if it is not lit, replace (see next page). Replace the Sensor Unit.
The Fluorescent lamp does not light up.	The Fluorescent tube is burnt out.	Replace the Fluorescent tube (see Sect. 13).
The Lamp does not light up.	Lamp malfunctioning.	Replace the Lamp (see Sec. 13).

REPLACEMENT OF LED BD

In case two of LED's do not emit light, failure and malfunctioning may be considered. Replace in the following procedure. When removing surface soils, also use the following procedure.



If light emission from the 2 LED's can not be seen,replace.

FIG. 15 b

- ① Turn off power.
- ② By referring to [2], Section 6, demount the PTV from Cabinet DX.
- ③ By referring to [1], Section 6, remove the Mask from the PTV.
- ④ The Mask has the LED Board. Disconnect the Connectors from both ends of LED Board, remove 2 U Nuts, take out and replace the LED Board.

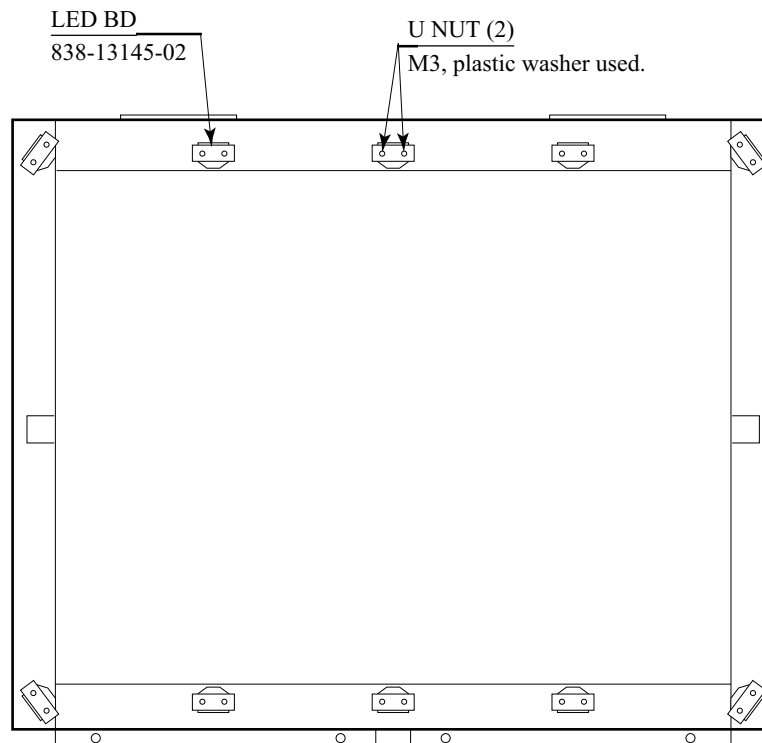


FIG. 15 c

16. GAME BOARD



- In order to prevent electric shock and short circuit hazards, be sure to turn power off before performing work.
- Be careful so as not to damage wirings. Damaged wiring can cause fire, electric shock or short circuit.
- Do not expose the Game BD, etc. without a good reason. Failure to observe this can cause electric shock hazard or malfunctioning.



- In this product, setting changes are made during the test mode. The Game BD need not be operated. Use the Game BD, etc. as is with the same setting made at the time of shipment so as not to cause electric shock and malfunctioning.
- The electronic parts on the IC Board may be damaged due to human body's static electricity. Before performing IC Board related work, be sure to discharge physically accumulated statics by touching grounded metallic surfaces, etc.

The GD-ROM Service Manual attached with this product instructs you to remove the key chip when shipping a NAOMI board. This product, however, employs the NAOMI board dedicated for this CONFIDENRIAL MISSION STD. Therefore, do not disassemble the NAOMI board and do not remove the key chip from the NAOMI board.

16 - 1 REMOVING THE GAME BOARD

- ① Turn off power.
- ② Take off the 2 screws from the cabinet, unlock, and remove the LID UPPER.

TRUSS SCREW (2), black
M4 X 16

Unlock

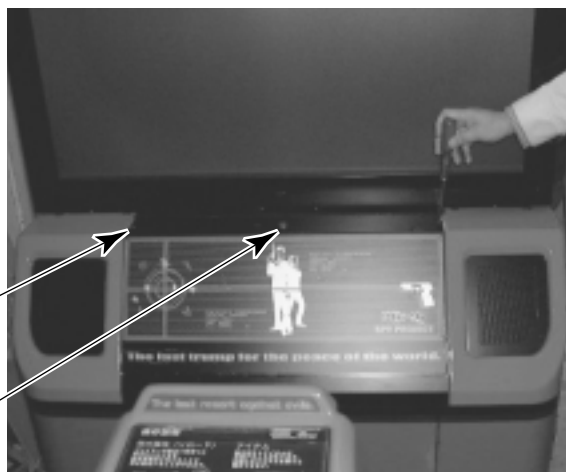


PHOTO 16. 1 a

- ③ Disconnect all connectors connected to the unit on the wooden board (the base) which carries the NAOMI BD.

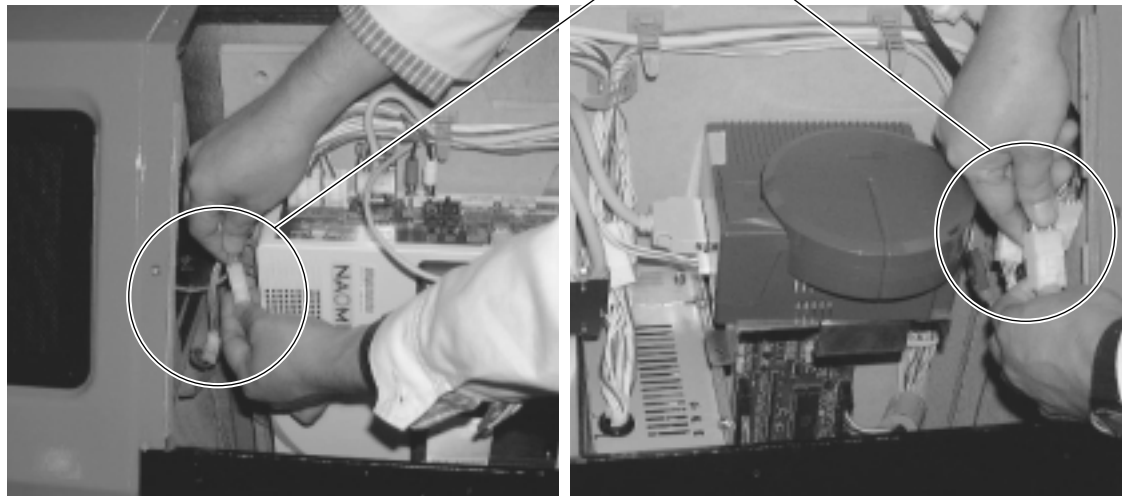
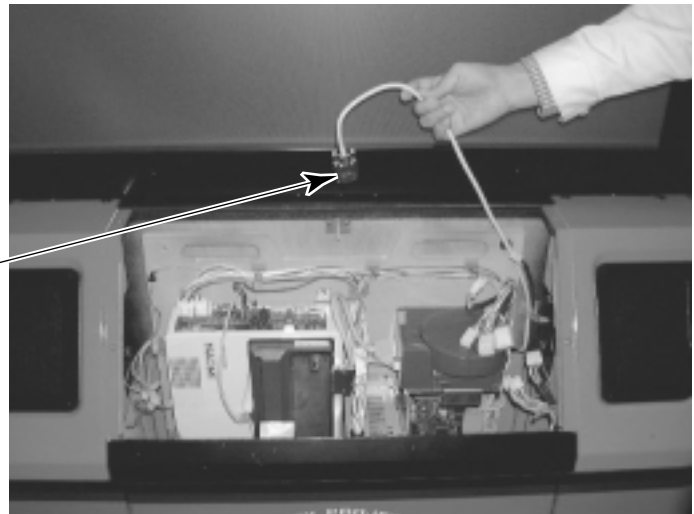


PHOTO 16. 1 b

- ④ Remove the D-SUB connector from the filter board.

D-SUB connector cable



- ⑤ Take off the 2 screws which secure the base and take out the base with the NAOMI BD on it from the cabinet.

PHOTO 16. 1 c

SCREW (2)

M5 X 35, w/spring washer, flat washer used.

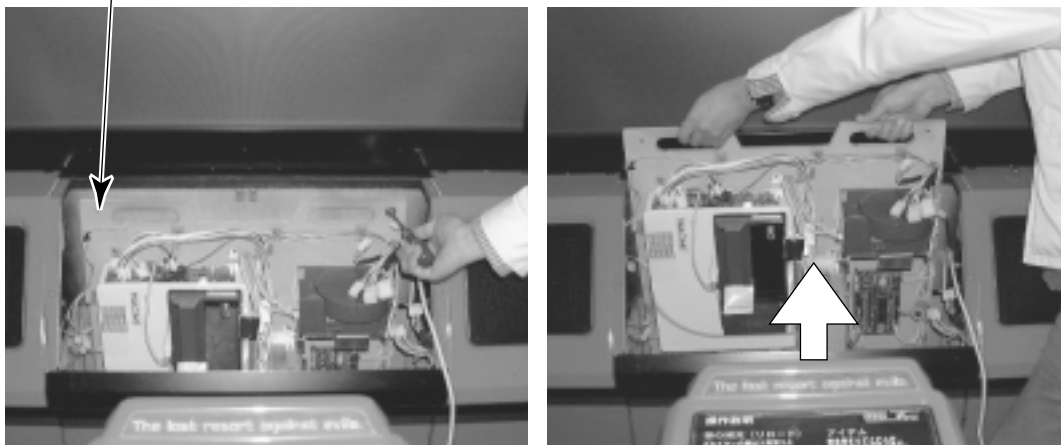


PHOTO 16. 1 d

- ⑥ Remove all the connectors from the filter board of the NAOMI board. Also remove the GD cable connector from the DIMM board.

- ⑦ Take off the 4 screws to remove the NAOMI BD from the base.

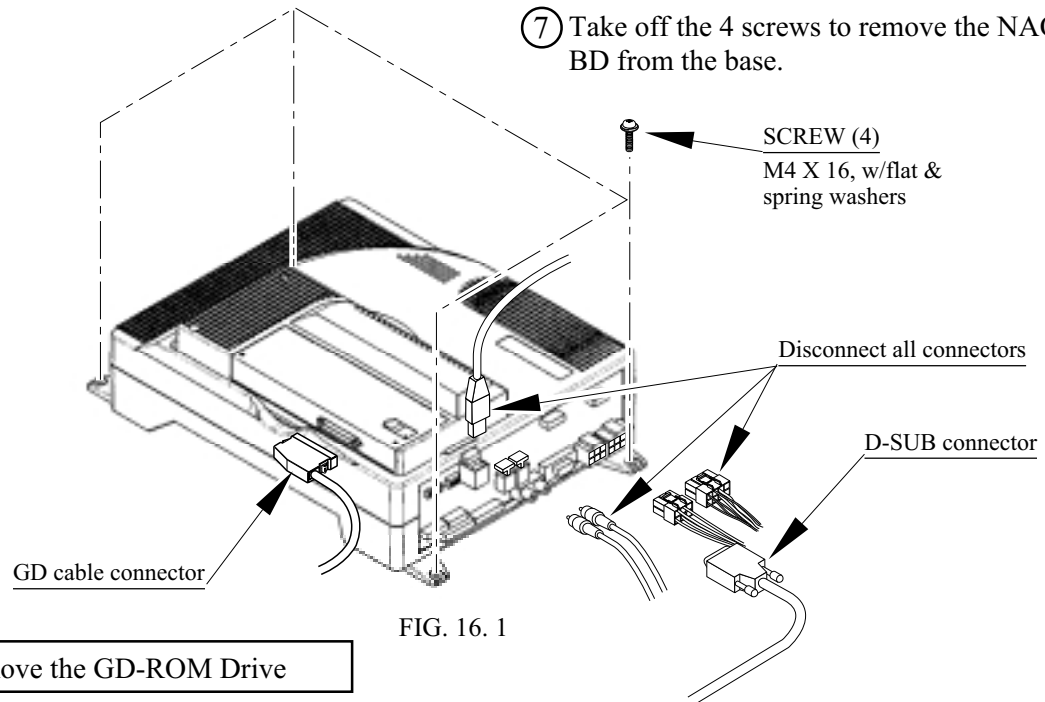


FIG. 16. 1

How to Remove the GD-ROM Drive

Take out the ASSY MAIN BD from the PTV cabinet; and then remove the GD-ROM drive from the ASSY MAIN BD as follows:

- ① Following the above described actions ① to ⑤ (to remove the NAOMI board), take out the ASSY MAIN BD from the PTV cabinet.

- ② Remove the GD cable connector and the power cord connector from the GD-ROM drive.

AC Cable connector

GD Cable connector

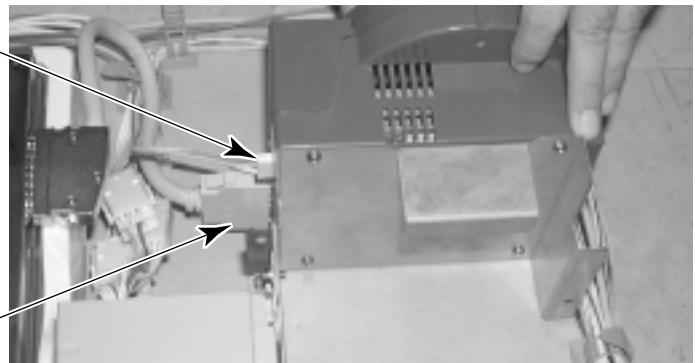


PHOTO 16. 1 e

- ③ Remove the 4 screws and thereby remove the GD-ROM drive.

SCREW (4)
M4 X 16, w/flat & spring washers

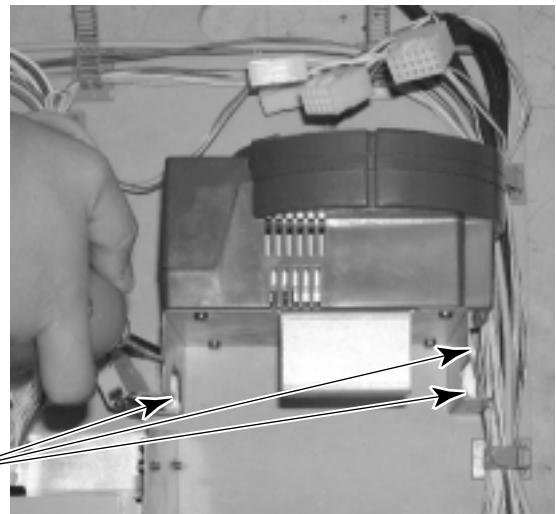
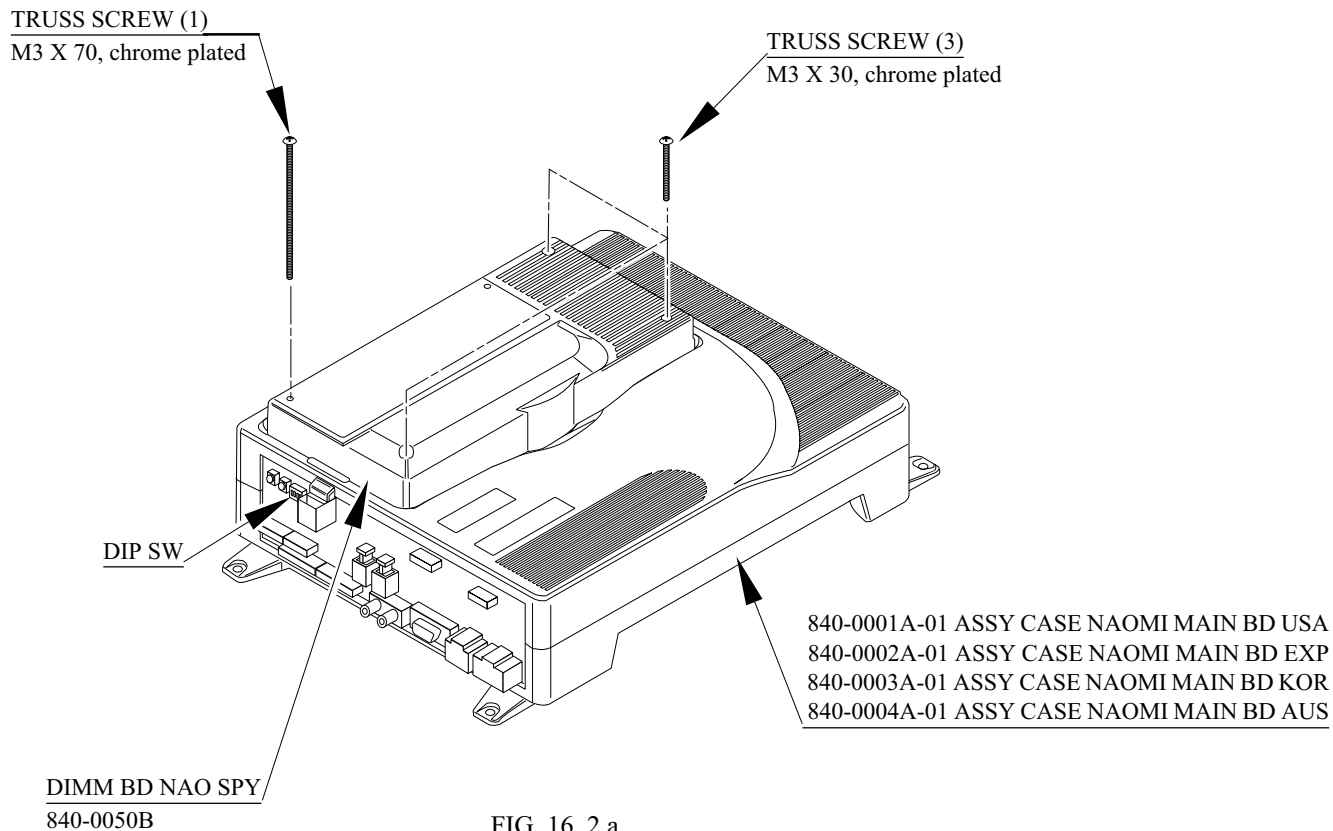


PHOTO 16. 1 f

16 - 2 COMPOSITION OF GAME BOARD

ASSY CASE NAO GD SPY USA (840-0050D-01) :USA
ASSY CASE NAO GD SPY EXP (840-0050D-02) :EXPORT
ASSY CASE NAO GD SPY KOR (840-0050D-03) :KOREA
ASSY CASE NAO GD SPY AUS (840-0050D-04) :AUSTRALIA



DIP SW SETTING

In this product, set the DIP SW to OFF.

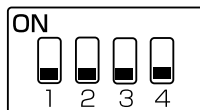


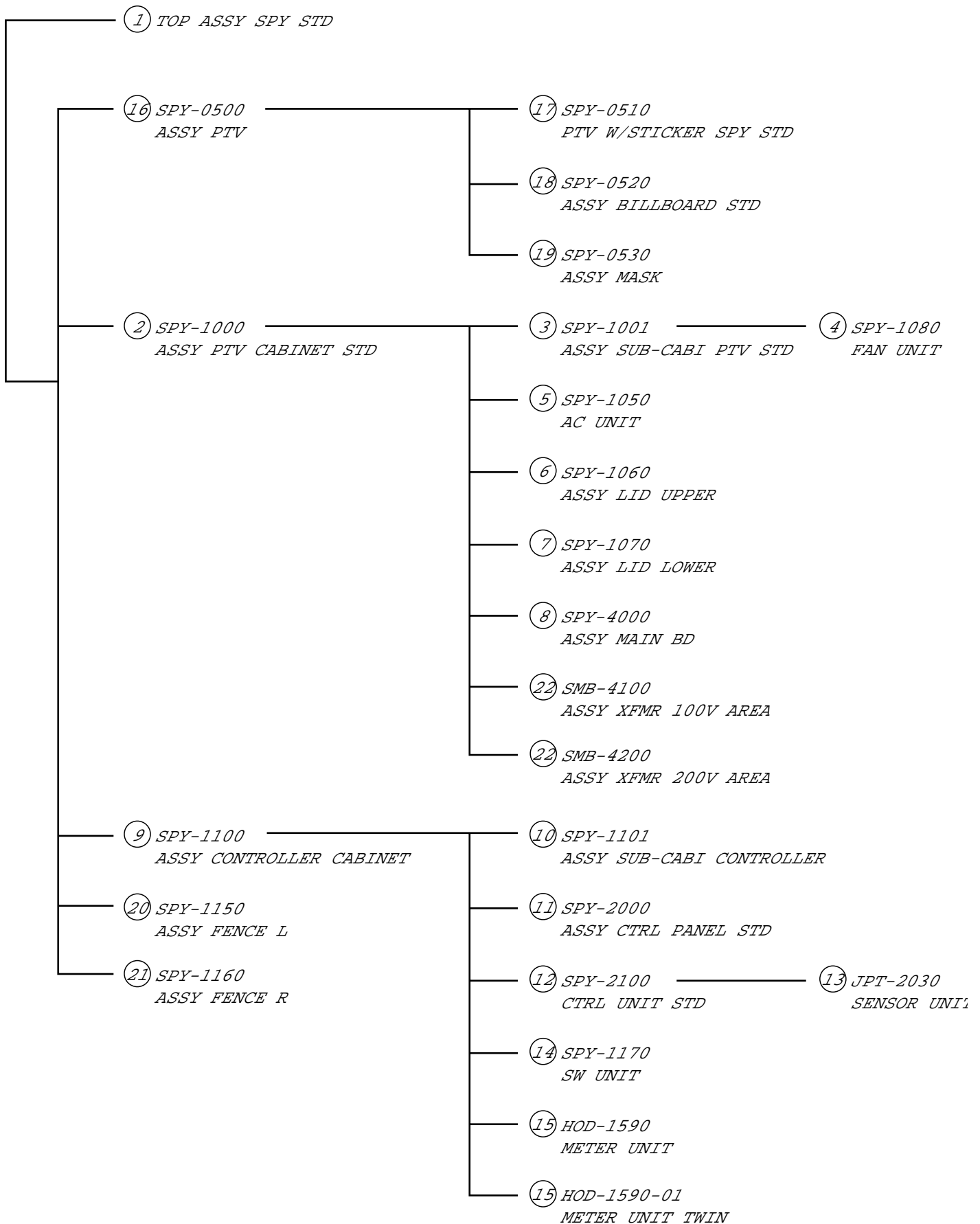
FIG. 16. 2 b

17. DESIGN RELATED PARTS

For the Warning Display stickers, refer to Section 1.

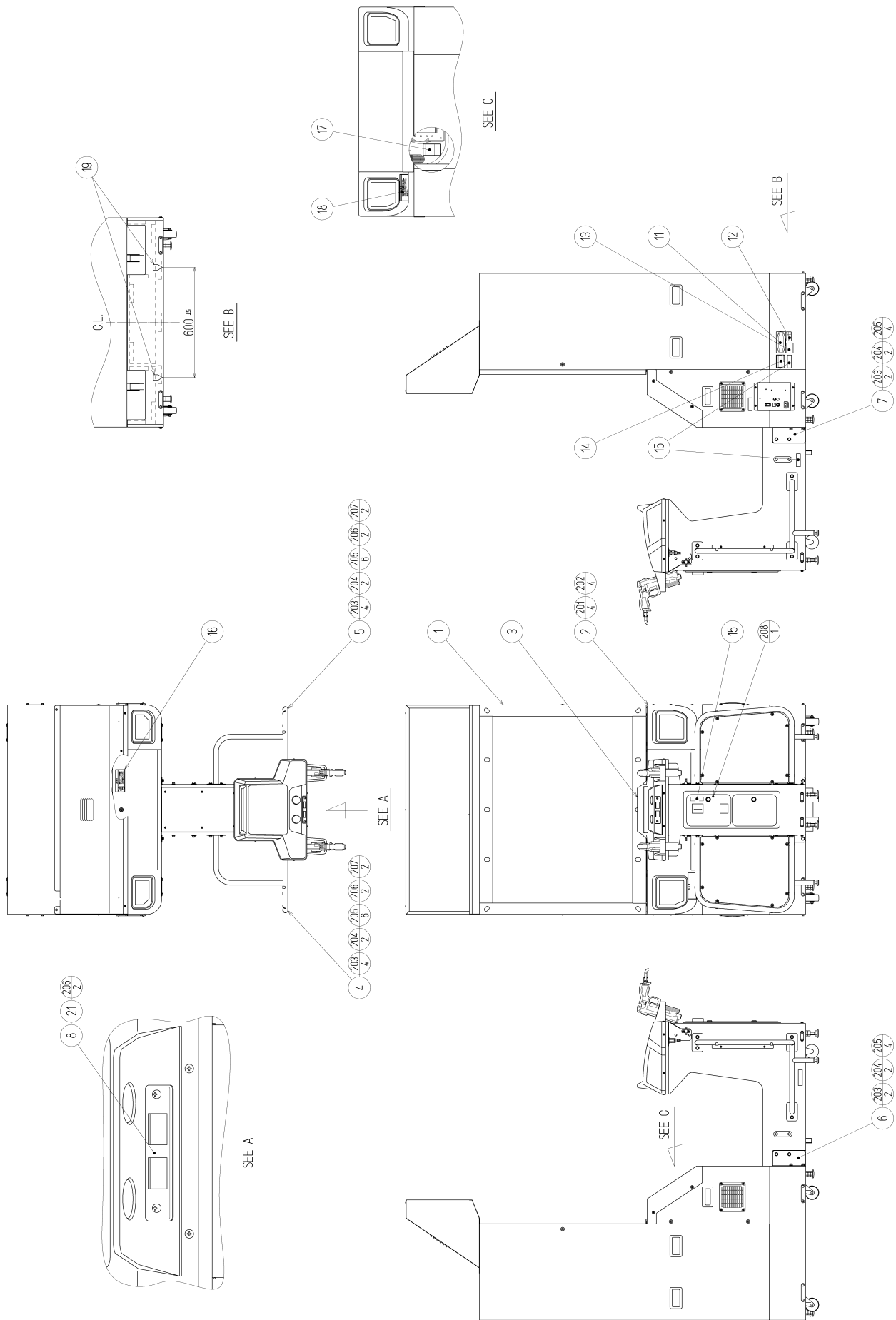


18. PARTS LIST



① TOP ASSY SPY STD

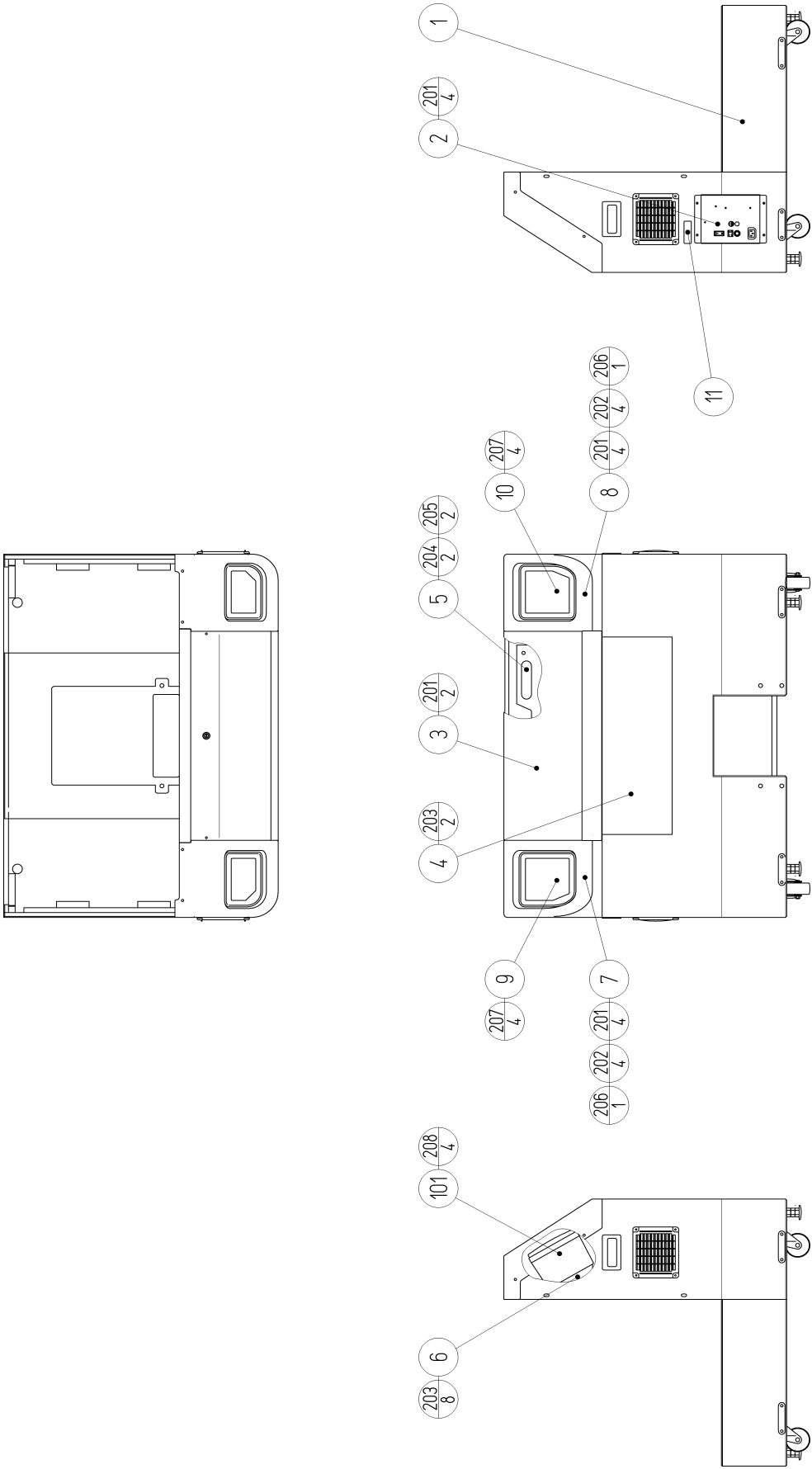
(D-1/2)



ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	SPY-0500	ASSY PTV	
2	SPY-1000	ASSY PTV CABINET STD	
3	SPY-1100	ASSY CONTROLLER CABINET	
4	SPY-1150	ASSY FENCE L	
5	SPY-1160	ASSY FENCE R	
6	SPY-0001	JOINT BRKT L	
7	SPY-0002	JOINT BRKT R	
8	JEY-0005	DENOMI PLATE	
9	SGM-4346	POLY COVER 1200 X 1200 X 1300	
10	SGM-4426	POLY COVER 800 X 750 X 900	
16	440-WS0033XEG	STICKER W BD POWER OFF ENG	
17	440-WS0002XEG	STICKER W POWER OFF ENG	
18	440-CS0175-EG	STICKER C EPILEPSY ENG	
19	421-8885	STICKER CAUTION FORK	
20	421-8479-01	STICKER INSTR SUNLIGHT ENG	
21	421-7907- ~	DENOMI SH ~	
201	000-T00530-0B	M SCR TH BLK M5 X 30	
202	068-552016-0B	FLT WSHR BLK 5.5-20 X 1.6	
203	030-000835-SB	HEX BLT BLK W/S M8 X 35	
204	030-000850-SB	HEX BLT W/S BLK M8 X 50	
205	060-F00800-0B	FLT WSHR BLK M8	
206	000-T00416-0B	M SCR TH BLK M4 X 16	
207	068-441616-0B	FLT WSHR BLK 4.4-16 X 1.6	
208	000-T00430-0B	M SCR TH BLK M4 X 30	
401	601-6604-70	CARTON BOX 70	
402	SGM-2675	POLYETHYLENE BAG, 240 X 370	
403	420-6601-01	OWNERS MANUAL SPY STD ENG	
404	600-6664-02	WIRE HARN EARTH W/LUG M6 NOT USED	TAIWAN OTHERS
405	390-5160	LAMP WG B TYPE 6V 3W (C2R)	
406	509-5080	SW MICRO TYPE	
407	600-6729	AC CABLE CONNECT TYPE 15A	TAIWAN
	600-6618	AC CABLE CONNECT TYPE FOR EXP	OTHERS
	600-6619	AC CABLE CONNECT TYPE FOR UK	HONG KONG
	600-6695	AC CABLE CONNECT TYPE USA 15A	USA
408	SGM-4111	KEY BAG (SGB-1035X)	
409	220-5576	KEY MASTER FOR 220-5575	
410	280-5009-01	CORD CLAMP 21	
412	420-6620-01	SERVICE MANUAL NAOMI GD ENG	
413	105-5435	GD DRIVE BRKT STD	
414	000-P00416	M SCR PH M4 X 16	
415	012-P00408	TAP SCR #2 PH 4 X 8	
416	610-0625-0001	GD SOFT SPY	
/	105-5356	SHIPPING BRKT	
/	421-8740	CAUTION INSTR COP U/R	
/	440-CS0110-EG	STICKER C ZMB DX ENG	
/	421-6690-05	STICKER 240V	AC 240V AREA
/	421-6690-03	STICKER 220V	AC 220V AREA
/	421-6690-06	STICKER 110V	AC 110V AREA
/	421-6690-01	STICKER 120V	AC 120V AREA
/	421-6119-91	STICKER FCC	
/	421-6120-93	STICKER SEGA USA	USA

② ASSY PTV CABINET STD (SPY-1000)

(D-1/2)



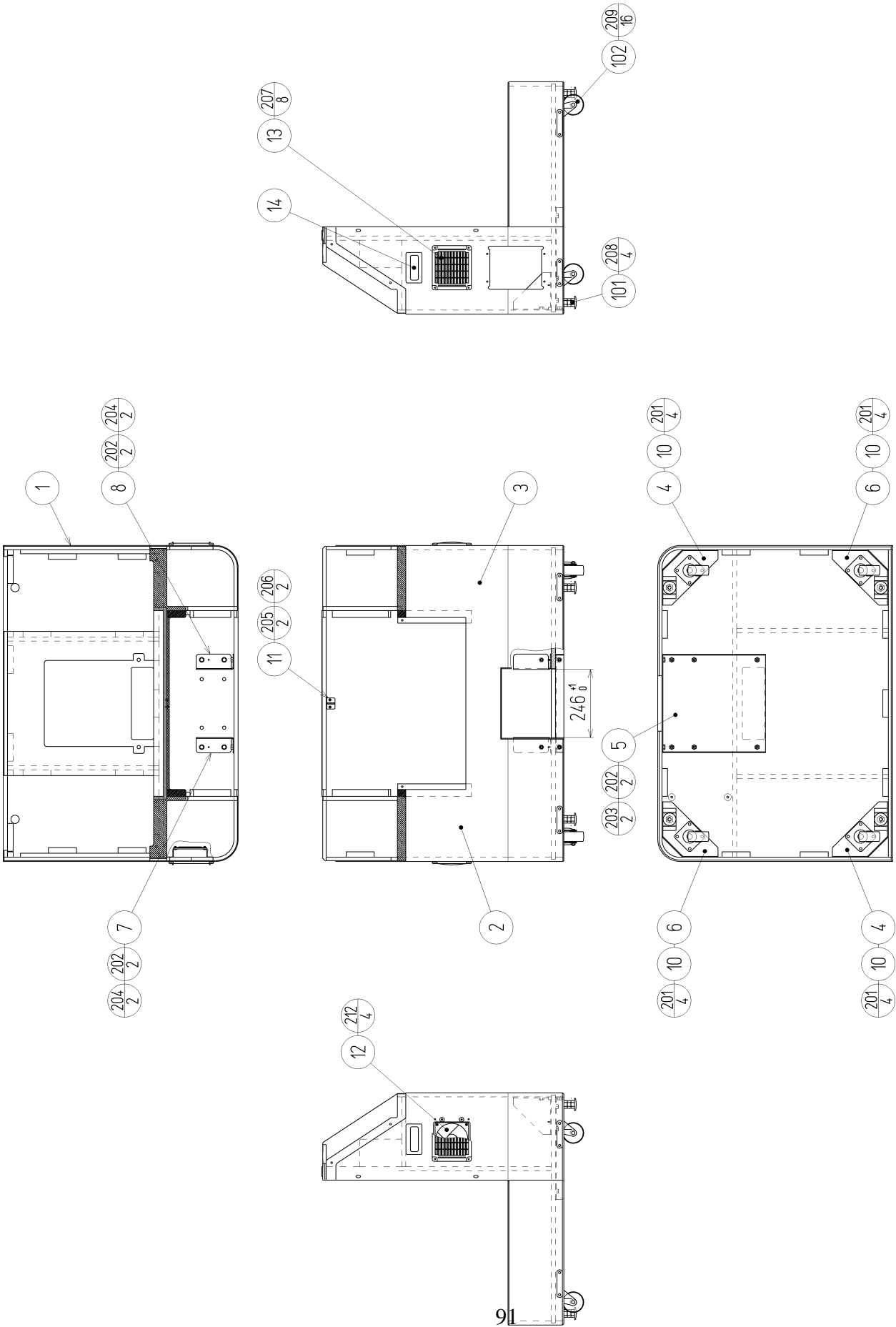
② ASSY PTV CABINET STD (SPY-1000)

(D-2/2)

ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	SPY-1001	ASSY SUB-CABI PTV DX	
2	SPY-1050	AC UNIT	
3	SPY-1060	ASSY LID UPPER	
4	SPY-1070	ASSY LID LOWER	
5	SPY-4000	ASSY MAIN BD	
6	FRQ-1071	SPEAKER BRKT	
7	SPY-1008	SPEAKER COVER L	
8	SPY-1009	SPEAKER COVER R	
9	FRQ-1007	SPEAKER NET L	
10	FRQ-1008	SPEAKER NET R	
101	130-5096	ASSY SERVO SPEAKER BOX	
102	280-5275-SR10	CORD CLAMP SR10	
201	000-T00416-0B	M SCR TH BLK M4 X 16	
202	068-441616-0B	FLT WSHR BLK 4.4-16 X 1.6	
203	000-P00420-W	M SCR PH W/FS M4 X 20	
204	000-P00535-S	M SCR PH W/S M5 X 35	
205	068-552016	FLT WSHR 5.5-20 X 1.6	
206	000-F00416	M SCR FH M4 X 16	
207	050-F00400	FLG NUT M4	
208	000-P00512-W	M SCR PH W/FS M5 X 12	
301	600-6341-44	WIRE HARN RIGHT SPEAKER	
302	600-6341-45	WIRE HARN LEFT SPEAKER	
303	SPY-60019	WH FREQ JUMPER	
/	000-P00530-S	M SCR PH W/S M5 X30	
/	068-552016	FLT WSHR 5.5-20 X 1.6	
/	SMB-4200	ASSY XFMR 200V AREA	AC 220 ~ 240V AREA
/	SMB-4100	ASSY XFMR 100V AREA	AC 110 ~ 120V AREA

③ ASSY SUB-CABI PTV STD (SPY-1001)

(D-1/2)

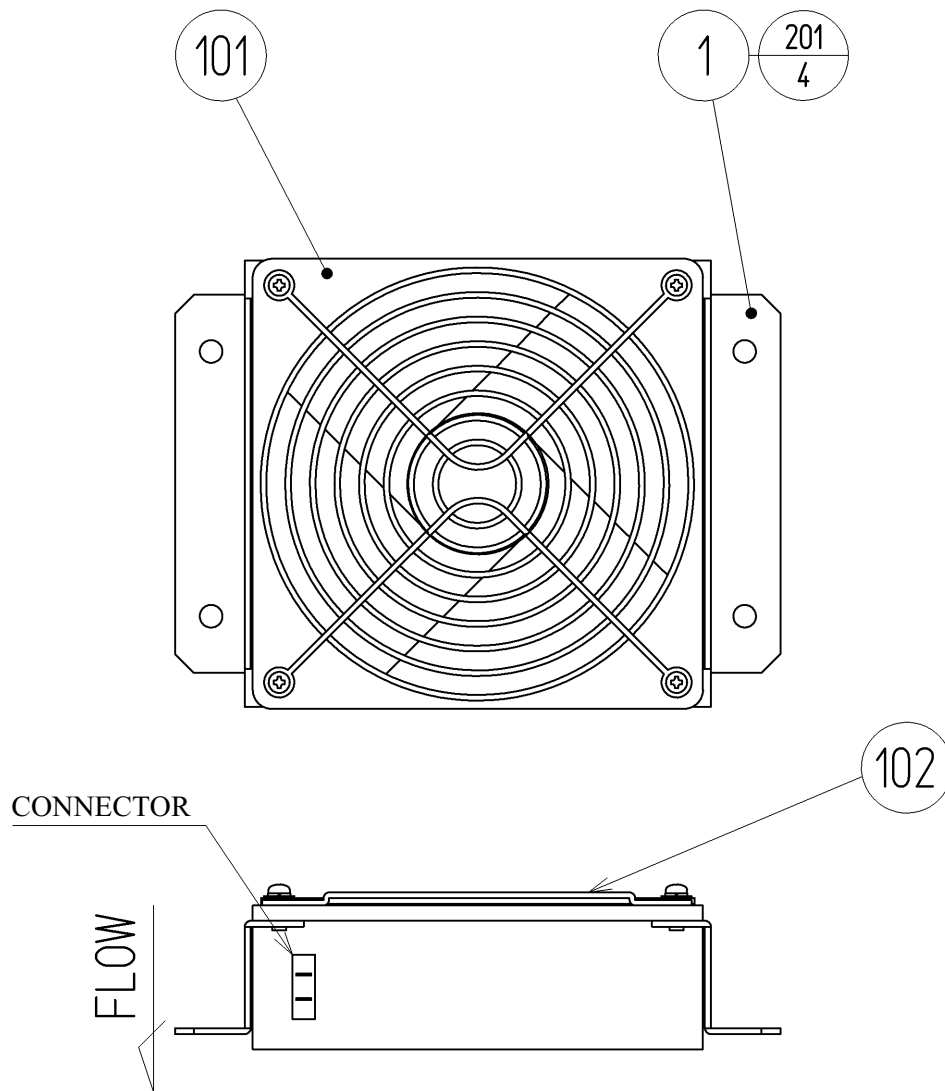


③ ASSY SUB-CABI PTV STD (SPY-1001)

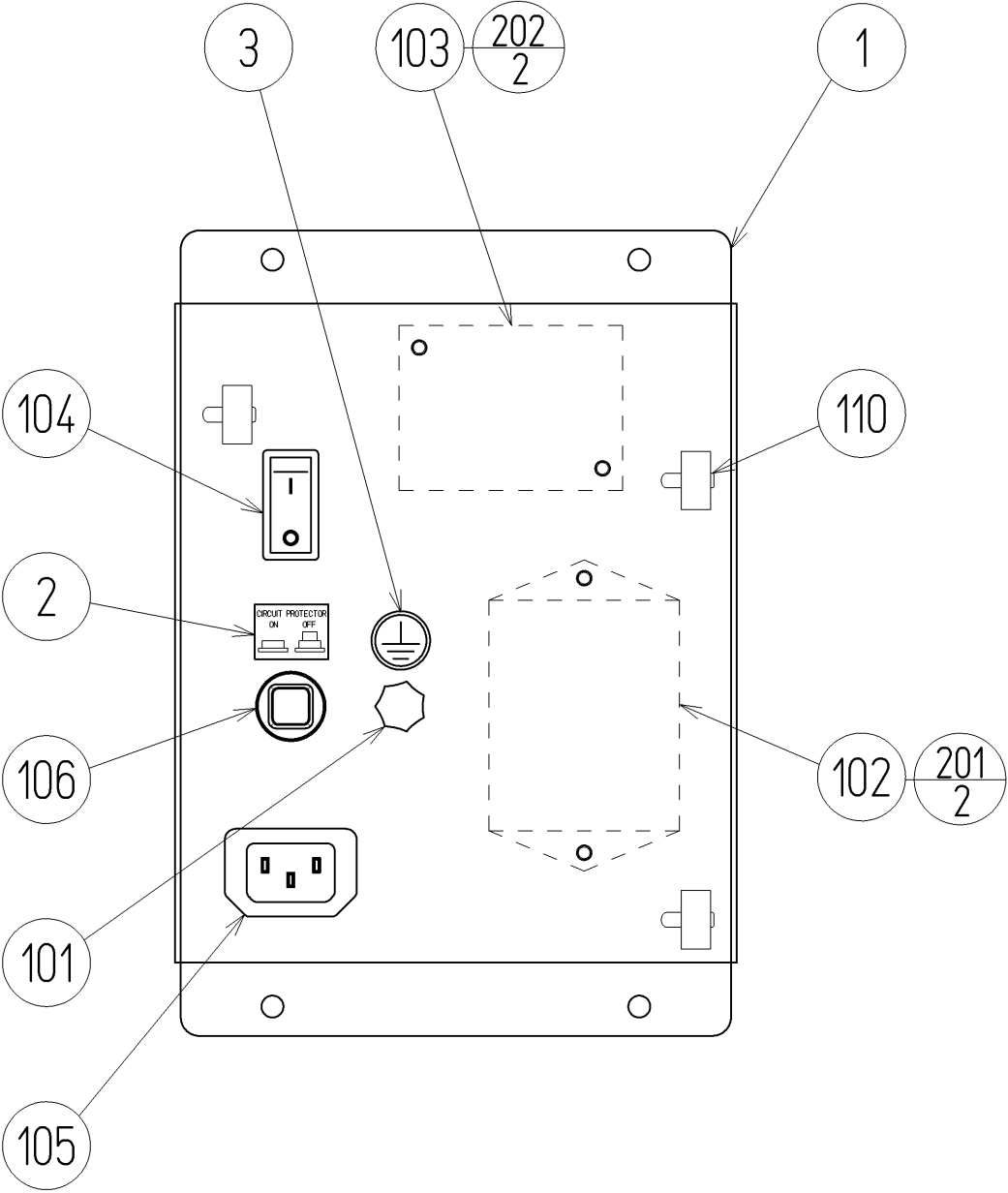
(D-2/2)

ITEM NO.	PART NO.	DESCRIPTION
1	FRQ-1002X	PTV CABINET
2	SPY-1003	STICKER CABINET L
3	SPY-1004	STICKER CABINET R
4	FRQ-1009	LEG CASTER BRKT A
5	SPY-1005	HOLDER PLATE
6	FRQ-1012	LEG CASTER BRKT B
7	SPY-1006	HOLDER BRKT L
8	SPY-1007	HOLDER BRKT R
10	117-5284	PLATE 6-80 BLACK
11	HOD-1003	LOCKING BRKT HOD
12	SPY-1080	FAN UNIT
13	253-5460-01	AIR VENT BLACK
14	253-5396-91	CABINET HANDLE
101	601-5699X	LEG ADJUSTER BOLT M16 X 75
102	601-9377	CASTER FAI=75
	601-6224	CASTER 75
103	280-5009-01	CORD CLAMP 21
104	280-0419	HARNESS LUG
201	030-000630-SB	HEX BLT BLK W/S M6 X 30
202	030-000840-S	HEX BLT W/S M8 X 40
203	068-852216	FLT WSHR 8.5-22 X 1.6
204	060-F00800	FLT WSHR M8
205	000-P00420-W	M SCR PH W/FS M4 X 20
206	050-F00400	FLG NUT M4
207	000-T00416-0B	M SCR TH BLK M4 X 16
208	050-H01600-0B	HEX NUT BLK M16
209	030-000616-S	HEX BLT W/S M6 X 16
210	011-F00310	TAP SCR FH 3 X 10
211	011-T03512	TAP SCR TH 3.5 X 12
212	000-P00416-W	M SCR PH W/FS M4 X 16
213	050-H00400	HEX NUT M4
214	060-F00400	FLT WSHR M4
215	060-S00400	SPR WSHR M4
301	SPY-60001	WH AC EXT MAIN 1
303	SMB-60007	WIRE HARN AC EXT W/FAN
304	SPY-60002	WH AC EXT PTV
305	SPY-60003	WH LED EXT 1
306	600-7009-2250	ASSY RGB CA D-SUB 15P 2250MM
307	SPY-60020	WH EARTH TO CTRL CABI
308	SPY-60021	WH EARTH MASK
309	600-6972-0550	WIRE HARN EARTH ID5 0550MM

④ FAN UNIT (SPY-1080)



ITEM NO.	PART NO.	DESCRIPTION
1	SPY-1081	FAN BRKT
101	260-0011-02	AXIAL FLOW FAN AC100V 50-60HZ
102	601-8543	FAN GUARD
201	000-P00312-W	M SCR PH W/FS M3 X 12

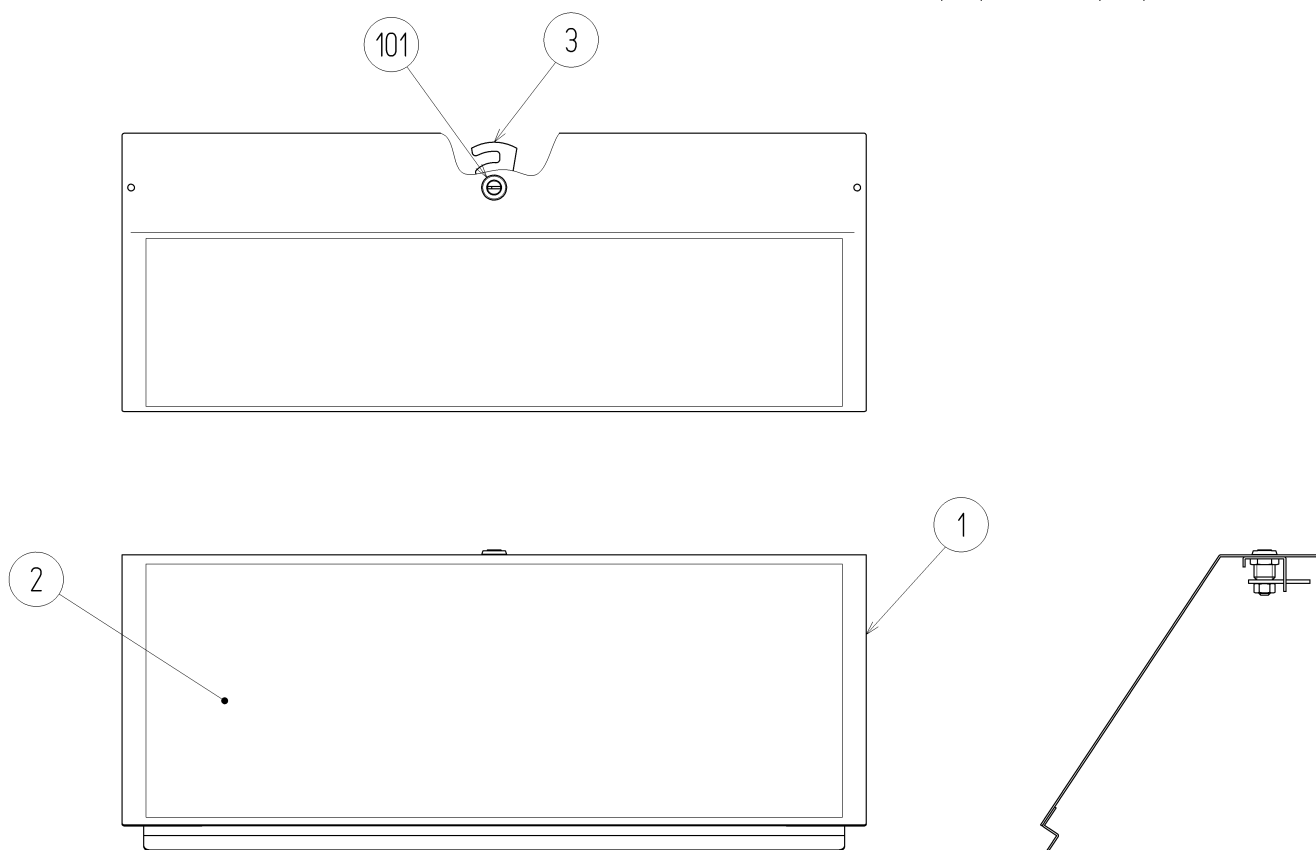


⑤ AC UNIT (SPY-1050)

(D-2/2)

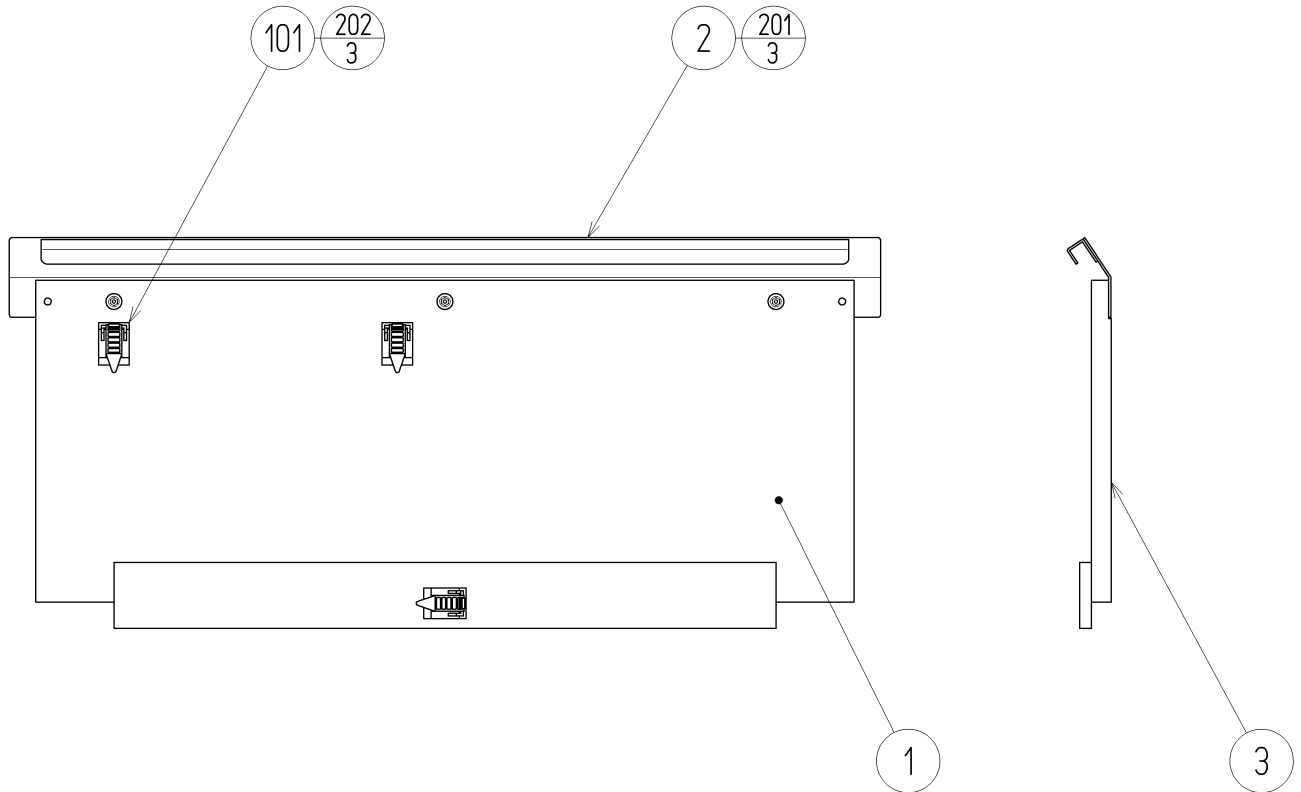
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	SPY-1051	AC BRKT	
2	421-7468-02	STICKER C.P W/PIC	
3	421-8202	STICKER EARTH MARK	
101	280-0417	TERMINAL BINDING POST BLACK	TAIWAN
		NOT USED	OTHERS
102	270-5115	NOISE FILTER 15A GT-215J	
103	450-5126	MAGNET CONTACT S-NIOCX	TAIWAN
	450-5133	MAGNET CONTACT S-NIOCX AC 200V	KOREA
	450-5134	MAGNET CONTACT S-NIOCX AC 230V	OTHERS
	450-5135	MAGNET CONTACT S-NIOCX AC 120V	USA
104	509-5453-91-V-B	SW ROCKER J8 V-B	
105	214-0202	AC INLET PANEL TYPE	
106	512-5046-8000	C.P 8000MA CE UL	AC 110 ~ 120V AREA
	512-5046-5000	C.P 5000MA CE UL	AC 220 ~ 240V AREA
107	310-5029-G20	SUMITUBE F G 20MM	
108	310-5029-F20	SUMITUBE F F 20MM	
109	601-0460	PLASTIC TIE BELT 100 MM	
110	280-5275-SR10	CORD CLAMP SR10	
201	000-P00408-W	M SCR PH W/FS M4 X 8	
202	000-P00416-W	M SCR PH W/FS M4 X 16	
203	050-H00400	HEX NUT M4	
204	060-F00400	FLT WSHR M4	
205	060-S00400	SPR WSHR M4	
301	SMB-60001	WIRE HARN AC IN	
302	SMB-60002	WIRE HARN J8 SWITCH	
303	SMB-60003	WIRE HARN FILTER IN	
304	SMB-60004	WIRE HARN FILTER OUT	
/	008-T00408-0B	TMP PRF SCR TH BLK M4 X 8	

⑥ ASSY LID UPPER (SPY-1060)

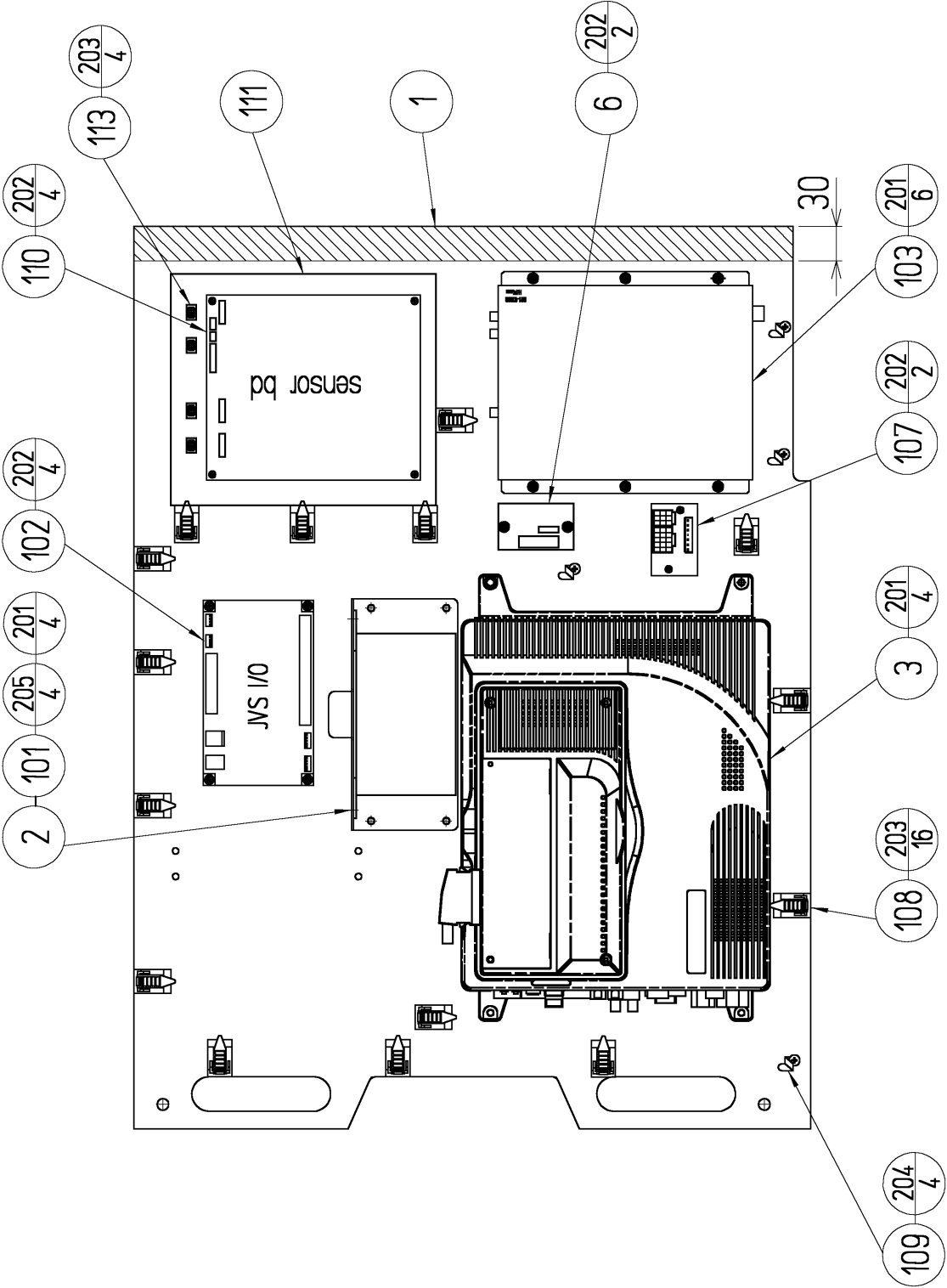


ITEM NO.	PART NO.	DESCRIPTION
1	SPY-1061	LID UPPER
2	SPY-1062	STICKER LID UPPER
3	TH-1015	LOCKING TONGUE
101	220-5575	CAM LOCK MASTER W/O KEY

⑦ ASSY LID LOWER (SPY-1070)



ITEM NO.	PART NO.	DESCRIPTION
1	FRQ-1061	LID LOWER
2	SPY-1071	LID BRKT
3	SPY-1072	STICKER LID LOWER
101	280-5009-01	CORD CLAMP 21
201	050-F00400	FLG NUT M4
202	011-F00310	TAP SCR FH 3 X 10
301	SPY-60011	WH TOWER EXT 1
302	SPY-60012	WH START EXT 1
303	SPY-60013	WH RECIEVER EXT

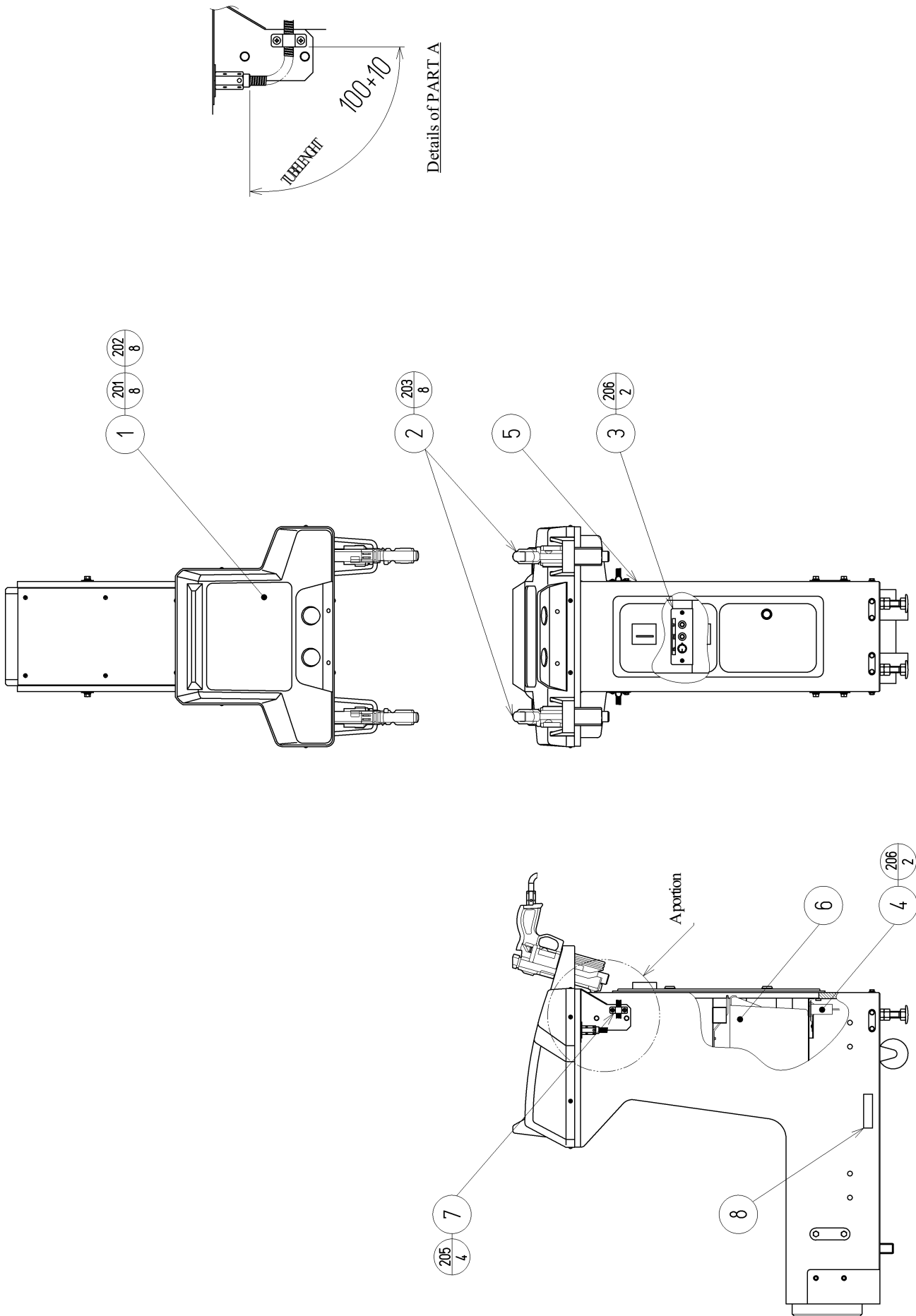


NOTE: Make sure that there is no wiring, etc.
in the slash mark portions.

⑧ ASSY MAIN BD (SPY-4000)

(D-2/2)

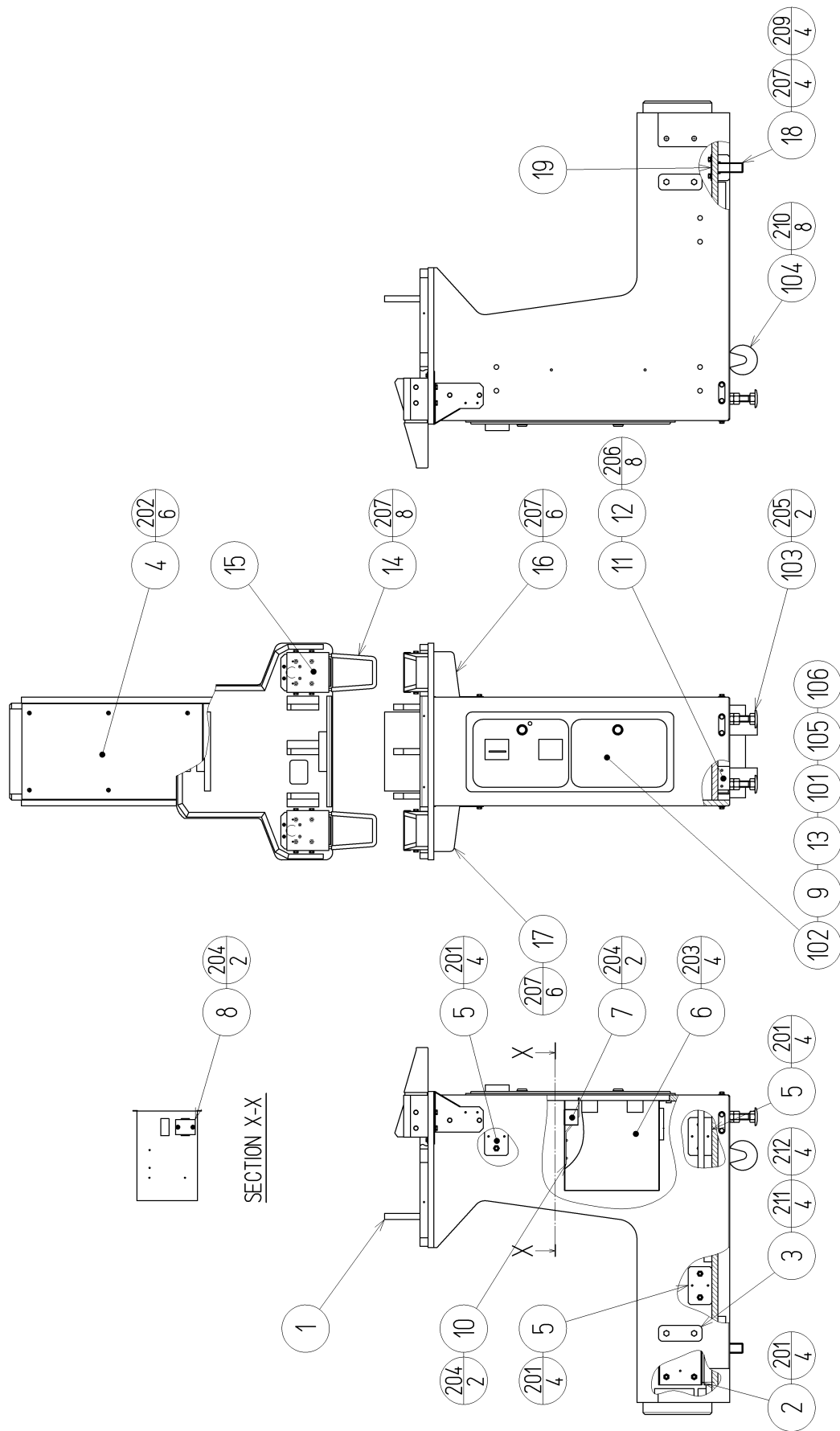
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	SPY-4001	MAIN BASE	
2	TMB-4003	SW REGU BRKT	
3	840-0050D-04	ASSY CASE NAO GD SPY AUS	AUSTRALIA
	840-0050D-02	ASSY CASE NAO GD SPY EXP	OTHERS
	840-0050D-03	ASSY CASE NAO GD SPY KOR	KOREA
	840-0050D-01	ASSY CASE NAO GD SPY USA	USA
6	839-0979	CONDENSER BD	
101	400-5397-01	SW REGU FOR JVS VA	
102	837-13551-92	I/O CONTROL BD FOR JVS	
103	601-10369	STEREO PWR AMP 47	
107	838-11856-UL	CONNECT BD UL	
108	280-5009-01	CORD CLAMP 21	
109	280-0419	HARNESS LUG	
110	838-13143-08	IC BD GUN SENSE SPY	
	838-13143-10	IC BD GUN SENSE SPY EXTRA	
111	601-10397-01	SLIONTEC AL TAPE 8060 200 X 240	
112	270-5117	FERRITE CORE TDK ZCAT3035-1330	
113	280-5256	TIE BASE TM1S4	
114	601-0460	PLASTIC TIE BELT 100 MM	
201	000-P00416-W	M SCR PH W/FS M4 X 16	
202	011-P00325	TAP SCR PH 3 X 25	
203	011-F00310	TAP SCR FH 3 X 10	
204	011-T03512	TAP SCR TH 3.5 X 12	
205	000-P00408-W	M SCR PH W/FS M4 X 8	
301	SPY-60004	WH AC MAIN BASE	
302	SPY-60005	WH AUDIO L	
303	SPY-60006	WH AUDIO R	
304	SPY-60007	WH I/O BD	
305	SPY-60008	WH CTRL BD LED	
306	SPY-60009	WH CTRL BD RECIEVER	
308	SMB-60013	WIRE HARN SPEAKER L	
309	SMB-60014	WIRE HARN SPEAKER R	
313	600-7141-100	CABLE JVS TYPE A-B 100CM	
314	600-7159-041	WIRE HARN JVS PWR 041CM	
315	600-7242-250	CABLE SCSI ST-L TYPE1 250MM	



⑨ ASSY CONTROLLER CABINET (SPY-1100)

(D-2/2)

ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	SPY-2000	ASSY CTRL PANEL STD	
2	SPY-2100	CTRL UNIT STD	
3	SPY-1170	SW UNIT	
4	HOD-1590	METER UNIT	OTHERS
	HOD-1590-01	METER UNIT TWIN	USA
5	SPY-1101	ASSY SUB-CABI CONTROLLER	
6	253-5366	CASH BOX	
7	CPT-1017	CABLE CLAMP	
201	000-T00416-0B	M SCR TH BLK M4 X 16	
202	068-441616-0B	FLT WSHR BLK 4.4-16 X 1.6	
203	000-T00430-0C	M SCR TH CRM M4 X 30	
205	000-T00416-0C	M SCR TH CRM M4 X 16	
206	000-P00416-W	M SCR PH W/FS M4 X 16	



⑩ ASSY SUB-CABI CONTROLLER (SPY-1101)

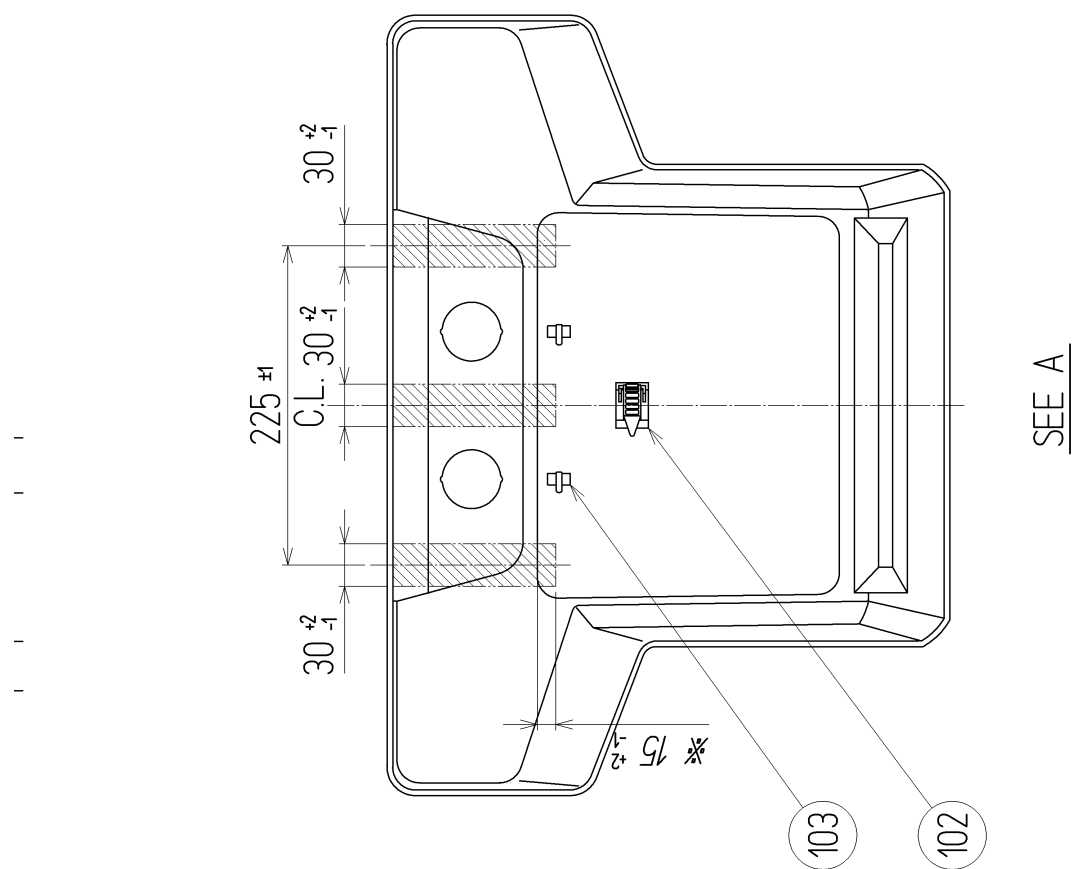
(D-2/3)

ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	SPY-1102	CONTROLLER CABINET	
2	SPY-1103	JOINT NUT PLATE	
3	SPY-1104	PLATE 8-70	
4	SPY-1105	JOINT PART LID	
5	HOD-1306	NUT PLATE FOR PIPE	
6	105-5106	CASH BOX COVER	
7	105-5107	CHUTE	
8	105-5188	HOLE COVER Locally supplied.	OTHERS USA
9	DP-1167	TNG LKG Locally supplied.	OTHERS USA
10	105-5170	LOCK BRACKET S	
11	ARC-1006	LEG BRACKET	
12	117-5233	PLATE LEG BRACKET BLACK	
13	421-7501-02	STICKER 6.3V 0.15A Locally supplied.	OTHERS USA
14	CPT-1019	HOLDER	
15	SPY-1106	HOLDER BRKT	
16	HOD-1307	SIDE BRKT L	
17	HOD-1308	SIDE BRKT R	
18	HOD-1309	UNDER BRKT	
19	HOD-1310	UNDER PLATE	
101	310-5029-F20	SUMITUBE F F 20MM Locally supplied.	OTHERS USA
102	220-5237-92- ~ 220-5482-91- ~	ASSY C.C ~ ASSY C.C ~	
103	601-5699X	LEG ADJUSTER BOLT M16 X 75	
104	601-8291	CASTER 75	
105	220-5575	CAM LOCK MASTER W/O KEY Locally supplied.	OTHERS USA
106	220-5574	CAM LOCK W/KEYS Locally supplied.	OTHERS USA
107	280-5009-01	CORD CLAMP 21	
108	280-5275-SR10	CORD CLAMP SR10	
201	011-P00312	TAP SCR PH 3 X 12	
202	000-T00430-0B	M SCR TH BLK M4 X 30	
203	000-P00406-W	M SCR PH W/FS M4 X 6	
204	000-P00410-W	M SCR PH W/FS M4 X 10	
205	050-H01600	HEX NUT M16	
206	030-000640-SB	HEX BLT W/S BLK M6 X 40	
207	030-000630-SB	HEX BLT BLK W/S M6 X 30	
208	011-F00310	TAP SCR FH 3 X 10	
209	060-F00600	FLT WSHR M6	
210	030-000830-SB	HEX BLT W/S BLK M8 X 30	
211	060-F00800-0B	FLT WSHR BLK M8	
212	030-000850-SB	HEX BLT W/S BLK M8 X 50	
213	000-P00408	M SCR PH M4 X 8	
214	060-S00400	SPR WSHR M4	
215	060-F00400	FLT WSHR M4	

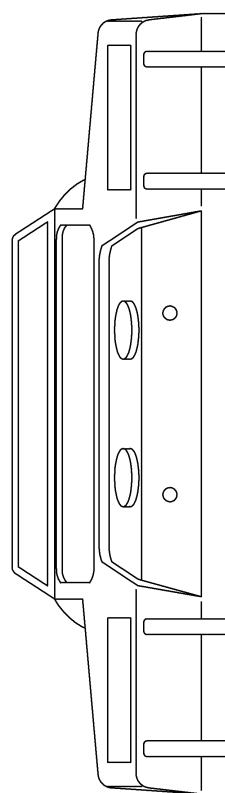
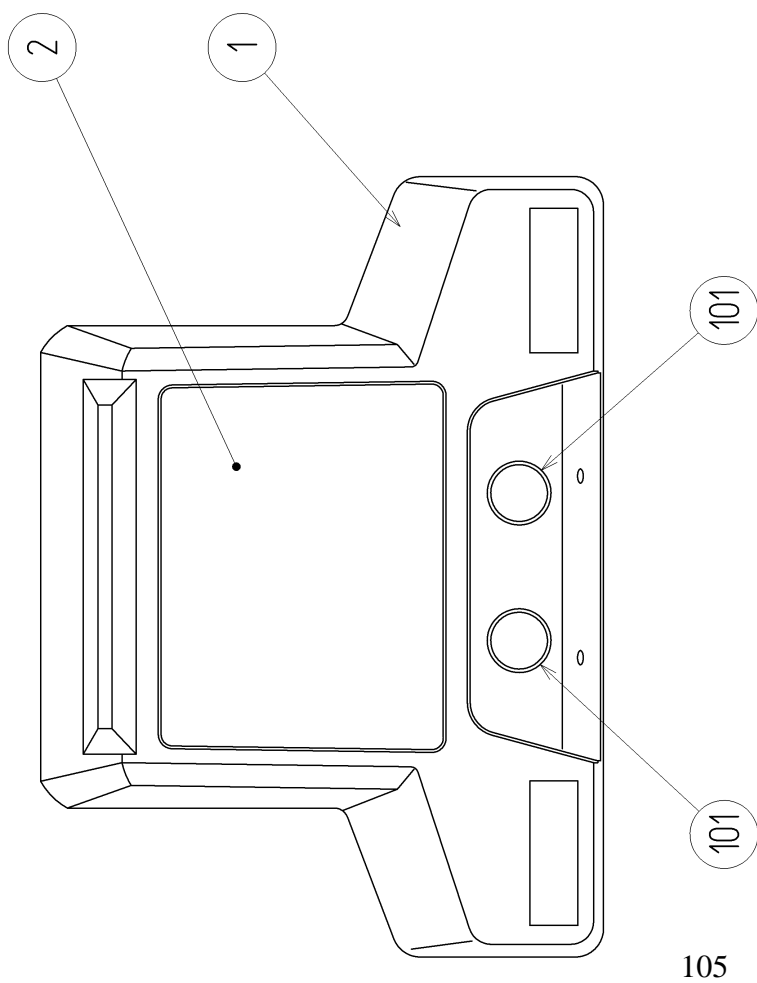
⑩ ASSY SUB-CABI CONTROLLER (SPY-1101)

(D-3/3)

ITEM NO.	PART NO.	DESCRIPTION	NOTE
301	600-6455-02	WIRE HARN C.C DOOR SINGLE Locally supplied.	OTHERS USA
302	SPY-60014	WH TOWER EXT 2	
303	SPY-60015	WH START EXT 2	
304	SPY-60016X	WH RECIEVER EXT 2	
305	SPY-60022	WH EARTH CTRL CABI	
306	600-6972-0280	WIRE HARN EARTH ID5 0280MM	
307	600-6972-0120	WIRE HARN EARTH ID5 0120MM	
308	600-6972-0480	WIRE HARN EARTH ID5 0480MM	



NOTE Make sure that there is no wiring, etc. in the slash mark portions.



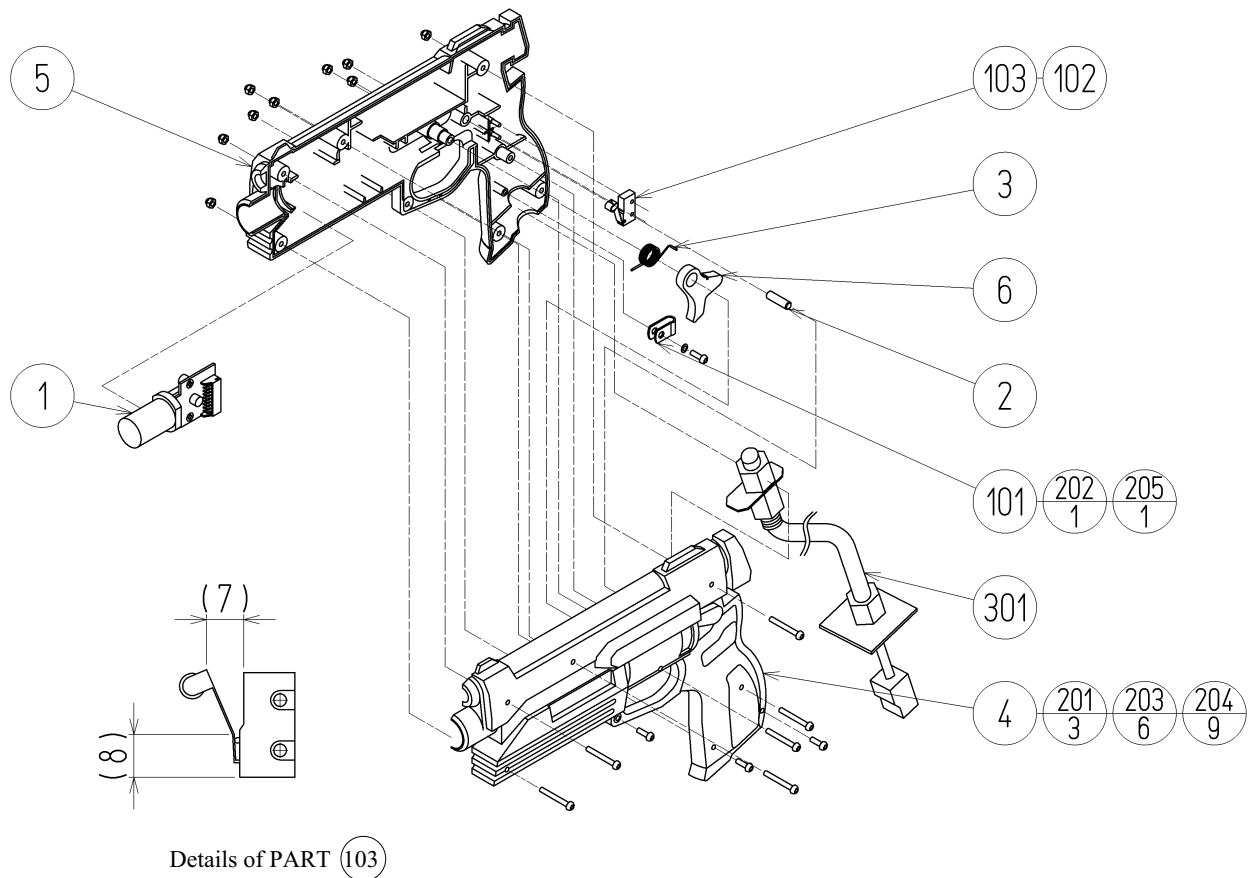
SEE A

⑪ ASSY CTRL PANEL STD (SPY-2000)

(D-2/2)

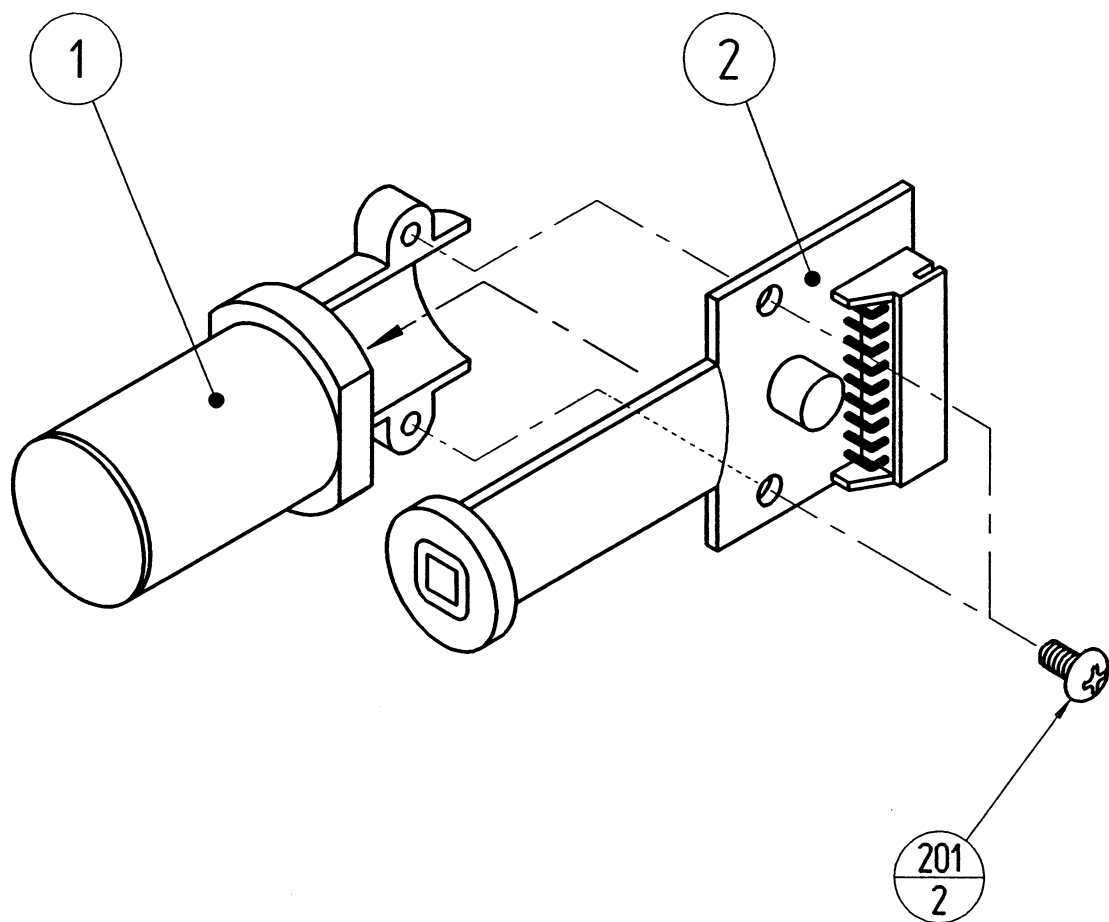
ITEM NO.	PART NO.	DESCRIPTION
1	SPY-2001-01	CTRL PNL ENG
2	SPY-2002-01	INST PLATE SPY DX ENG
101	509-5712-01	SW PB W/L 6V YELLOW
102	280-5009-01	CORD CLAMP 21
103	280-5275-SR10	CORD CLAMP SR10
301	HOD-60020	WIRE HARN CONTROL PANEL

⑫ CTRL UNIT STD (SPY-2100)



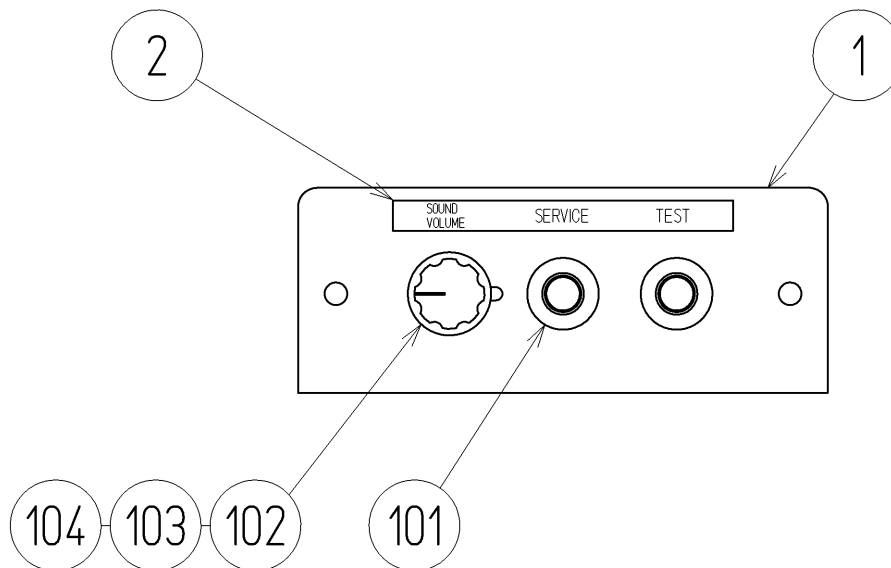
ITEM NO.	PART NO.	DESCRIPTION
1	JPT-2030	SENSOR UNIT
2	COP-2005	STOPPER PIN
3	125-5124	TORSION SPRING
4	253-5404-02	COVER LEFT RED
5	253-5405-02	COVER RIGHT RED
6	253-5406-02	TRIGGER RED
101	280-5124-03	NYLON CLAMP NK03
102	310-5029-D20	SUMITUBE F D 20MM
103	509-5080	SW MICRO TYPE
104	601-0460	PLASTIC TIE BELT 100 MM
201	000-P00308-0B	M SCR PH BLK M3 X 8
202	012-P00308	TAP SCR #2 PH 3 X 8
203	FAS-000015	M SCR PH BLK M3 X 25
204	FAS-500006	CAP NUT TYPE 3 BLK M3
205	060-F00300	FLT WSHR M3
301	SPY-60018	WH GUN UNIT

⑬ SENSOR UNIT (JPT-2030)



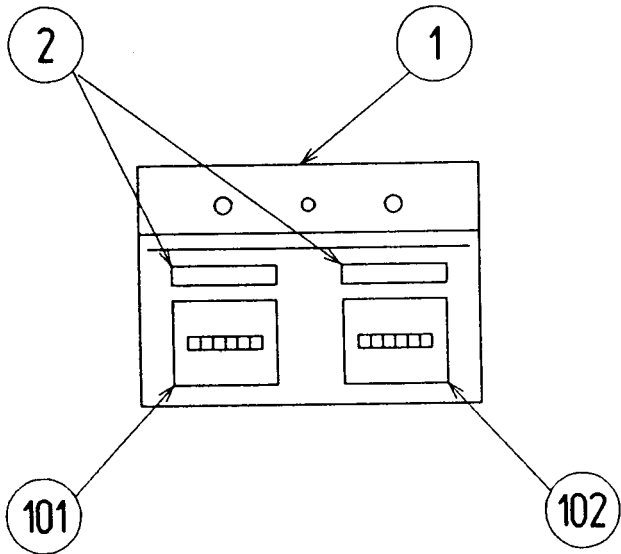
ITEM NO.	PART NO.	DESCRIPTION
1	JPT-2031	SENSOR HOLDER
101	838-13144-91	SENSOR BD GUN SENSE
201	012-P00306	TAP SCR #2 PH 3 X 6

⑭ SW UNIT (SPY-1170)



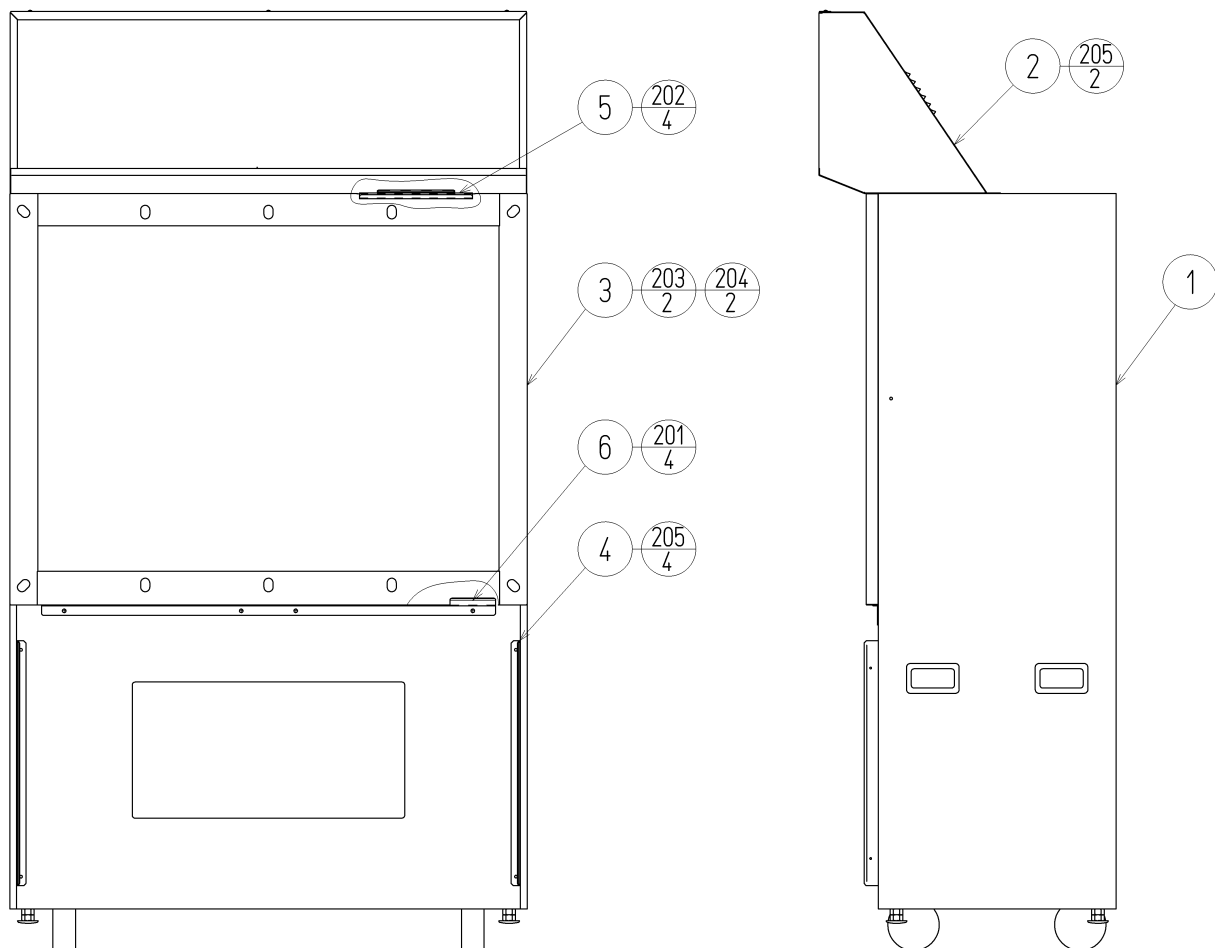
ITEM NO.	PART NO.	DESCRIPTION
1	SPY-1171	SW BRKT
2	421-8126	STICKER SWITCH PANEL
101	509-5028	SW PB 1M
102	220-5179	VOL CONT B-5K OHM
103	601-0042	KNOB 22 MM
104	310-5029-F20	SUMITUBE F F 20MM
301	SPY-60017	WH SW UNIT

⑮ METER UNIT TWIN (HOD-1590-01)



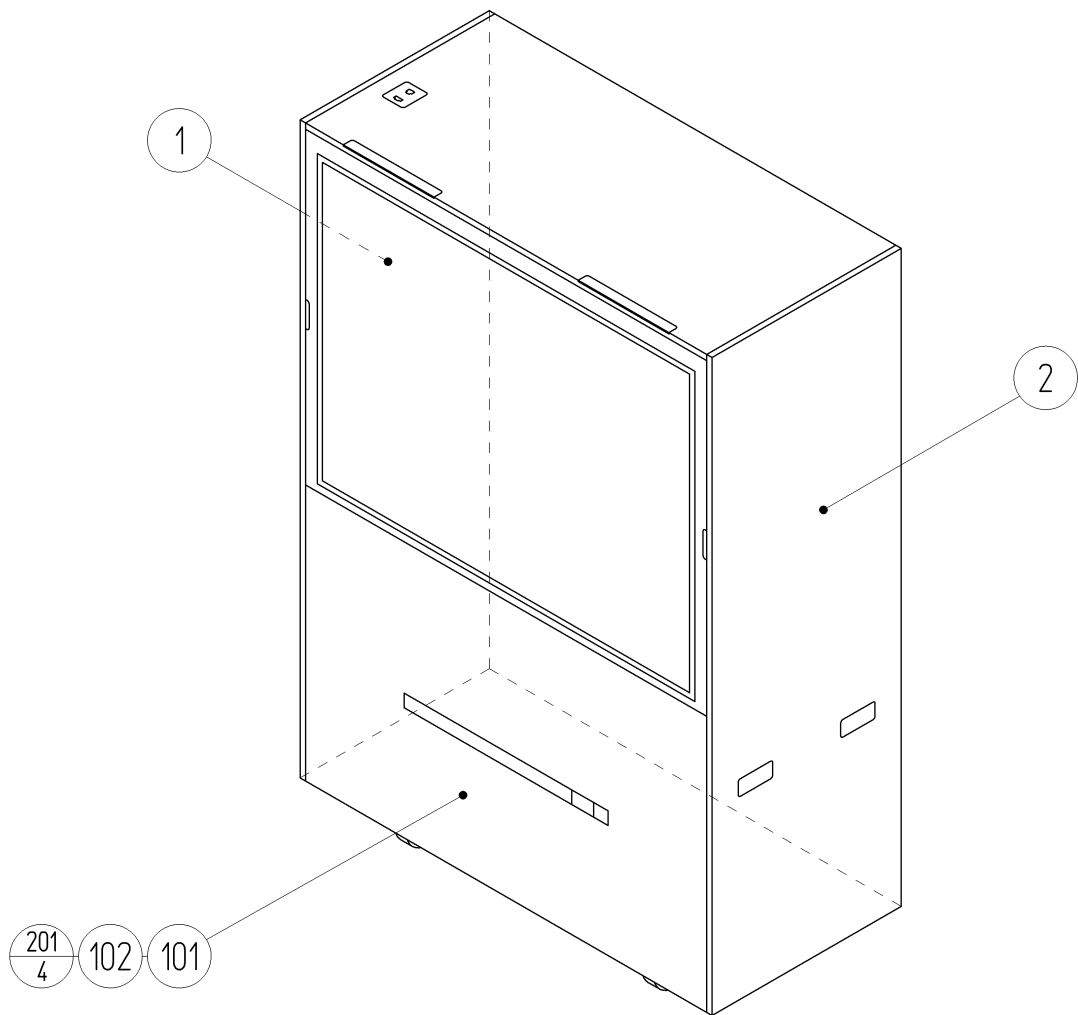
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	HOD-1592	METER BRKT TWIN	
2	421-6591-01	STICKER COIN METER	
101	220-5643-01	MAG CNTR DC5V 6P WH MZ-674-D04	
102	220-5643-02	MAG CNTR DC5V 6P YE MZ-674-D05	

①⑥ ASSY PTV (SPY-0500)

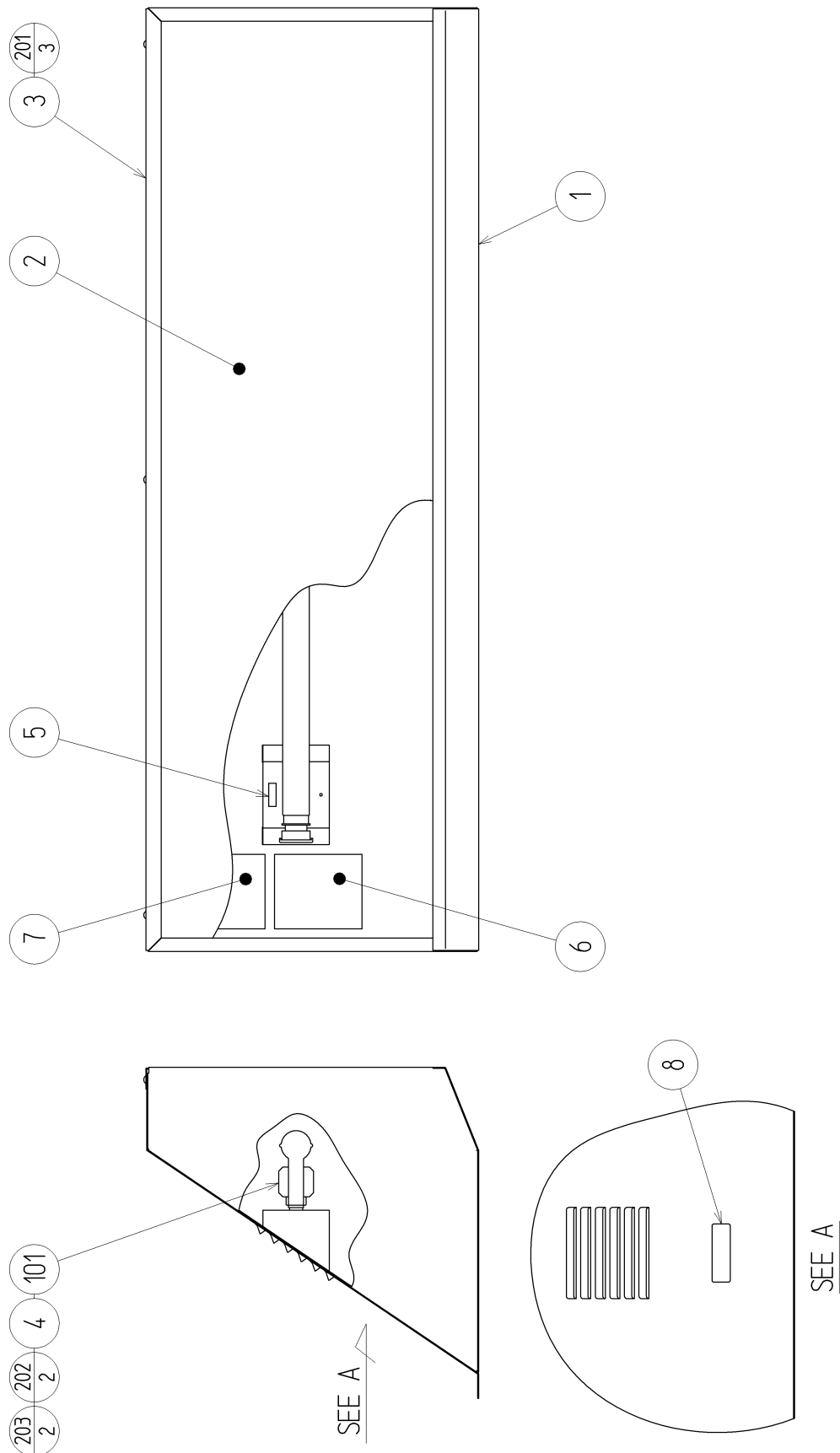


ITEM NO.	PART NO.	DESCRIPTION
1	SPY-0510	PTV W/STICKER SPY STD
2	SPY-0520	ASSY BILLBOARD STD
3	SPY-0530	ASSY MASK
4	HOD-1101	PTV HOLDER
5	FRQ-1114	MASK BRKT UPPER
6	SMB-1501	MASK BRKT LOWER
201	000-T00520-0B	M SCR TH BLK M5 X 20
202	000-F00412	M SCR FH M4 X 12
203	000-T00525-0B	M SCR TH BLK M5 X 25
204	068-552016-0B	FLT WSHR BLK 5.5-20 X 1.6
205	000-P00516-W	M SCR PH W/FS M5 X 16

①⑦ PTV W/STICKER SPY STD (SPY-0510)



ITEM NO.	PART NO.	DESCRIPTION
1	SPY-0511	STICKER PTV SIDE L
2	SPY-0512	STICKER PTV SIDE R
101	200-5788-31	PROJECTION DSPL T 50TYPE 31K
	280-5799-31	PROJECTION DSPL M 50TYPE 31K
102	280-5009-01	CORD CLAMP 21
201	011-F00310	TAP SCR FH 3 X 10

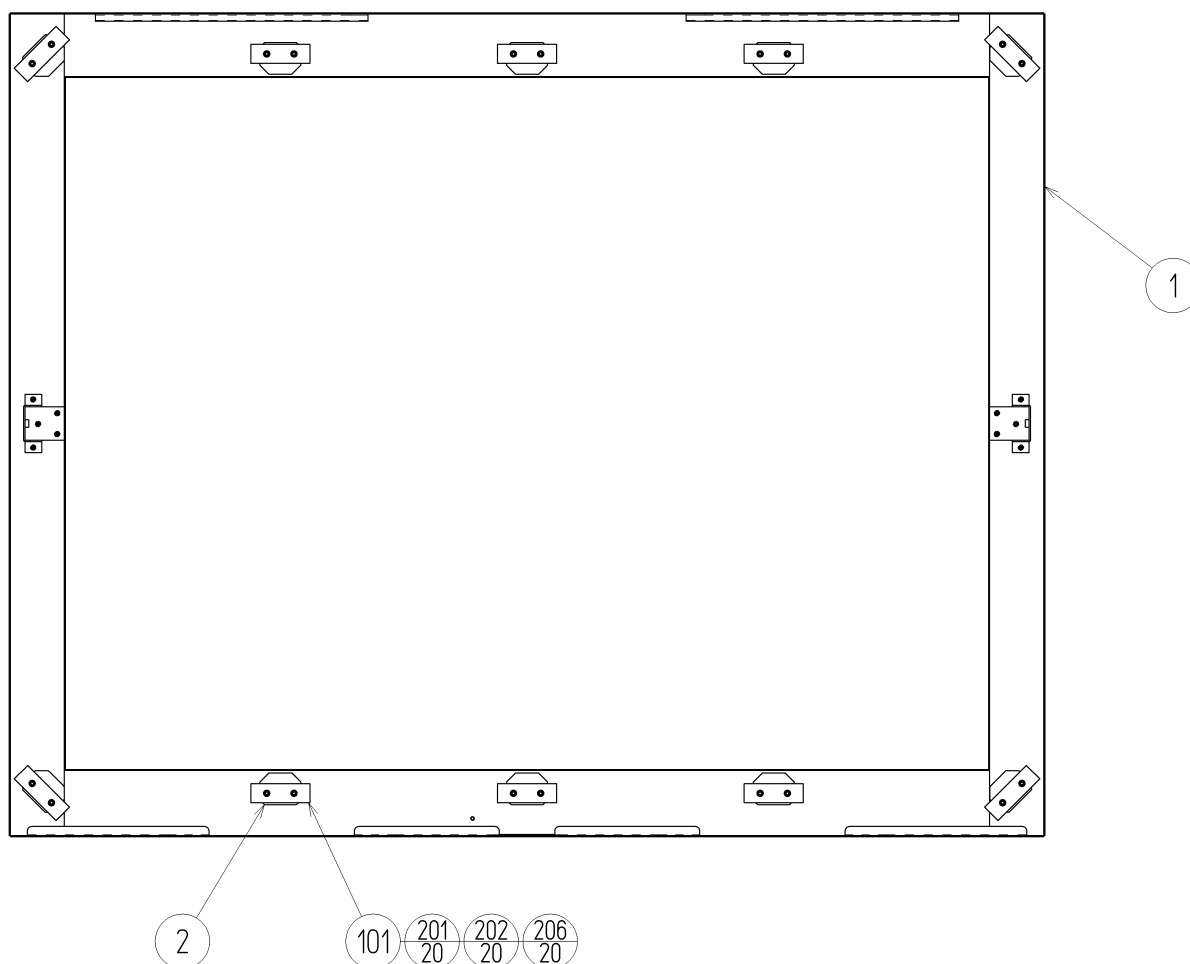


⑱ ASSY BILLBOARD STD (SPY-0520)

(D-2/2)

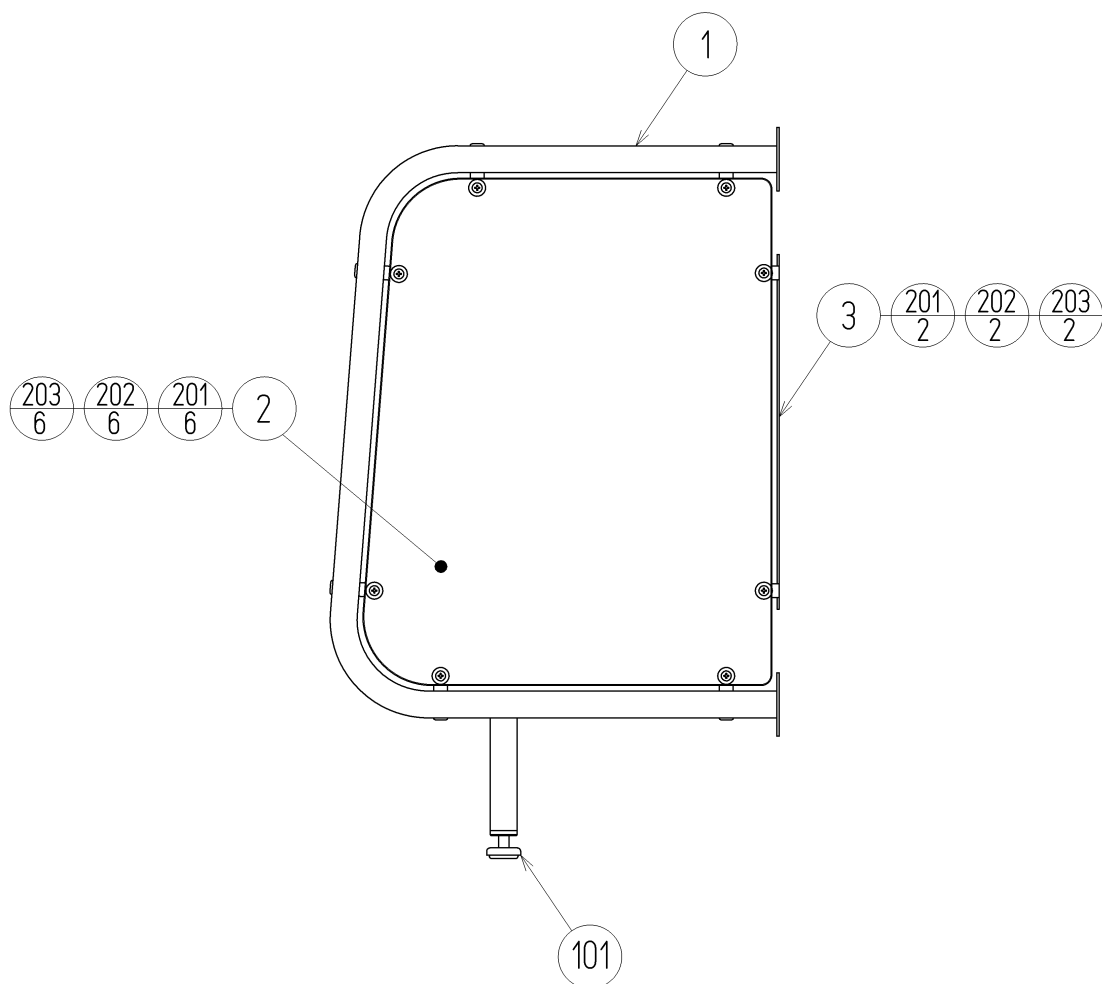
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	SPY-0521	BILLBOARD BOX	
2	SPY-0522	BILLBOARD PLATE	
3	SPY-0523	BILLBOARD SASH	
4	253-5457	FL HOLDER	OTHERS
		Locally supplied.	USA
5	421-7501-18	STICKER FL32W	OTHERS
		Locally supplied.	USA
6	440-WS0002XEG	STICKER W POWER OFF ENG	
7	440-WS0012XEG	STICKER W HIGH TEMP ENG	
101	LOC. PURCHASE	36" FL. LIGHT FIXTURE	
	LOC. PURCHASE	36" FL. LAMP	
102	280-5009-01	CORD CLAMP 21	
201	000-T00408-0B	M SCR TH BLK M4 X 8	
202	000-P00430-S	M SCR PH W/S M4 X 30	OTHERS
		Locally supplied.	USA
203	068-441616	FLT WSHR 4.4-16 X 1.6	OTHERS
		Locally supplied.	USA
301	SPY-60023	WH BILLBOARD	

①9 ASSY MASK (SPY-0530)



ITEM NO.	PART NO.	DESCRIPTION
1	SPY-0531	MASK BASE
2	JPT-1082	IR COVER
101	838-13145-02	LED BD GUN SENSE HOD
103	280-5008	CORD CLAMP 15
201	050-U00300	U NUT M3
202	068-330808-PN	FLT WSHR PLASTIC 3.3-8 X 0.8
203	050-H00400	HEX NUT M4
204	060-F00400	FLT WSHR M4
205	060-S00400	SPR WSHR M4
206	069-000026	FLT WSHR 3.2-11 X 0.5
301	SPY-60026	WH MASK INTO
302	SPY-60024	WH MASK SHORT
303	SPY-60025	WH MASK LONG
304	HOD-60035	WIRE HARN E MASK01

20 ASSY FENCE L (SPY-1150)

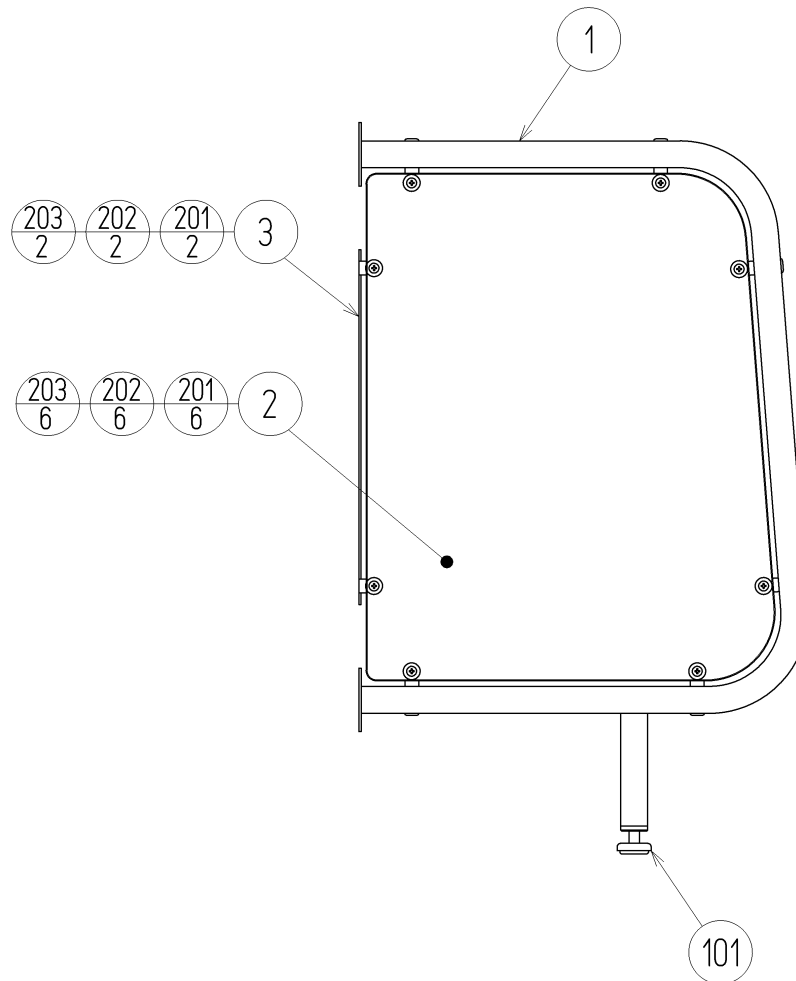


SCREW FASTENING TORQUE TO BE

201 SCREW 0.7 N•m

ITEM NO.	PART NO.	DESCRIPTION
1	HOD-1351	PIPE L
2	SPY-1151	GUARD PLATE L
3	HOD-0004	PLATE HOLDER
101	601-6076	LEG ADJUSTER 32
201	000-T00412-0B	M SCR TH BLK M4 X 12
202	068-441616-0B	FLT WSHR BLK 4.4-16 X 1.6
203	050-C00400-3B	CAP NUT TYPE3 BLK M4

②① ASSY FENCE R (SPY-1160)

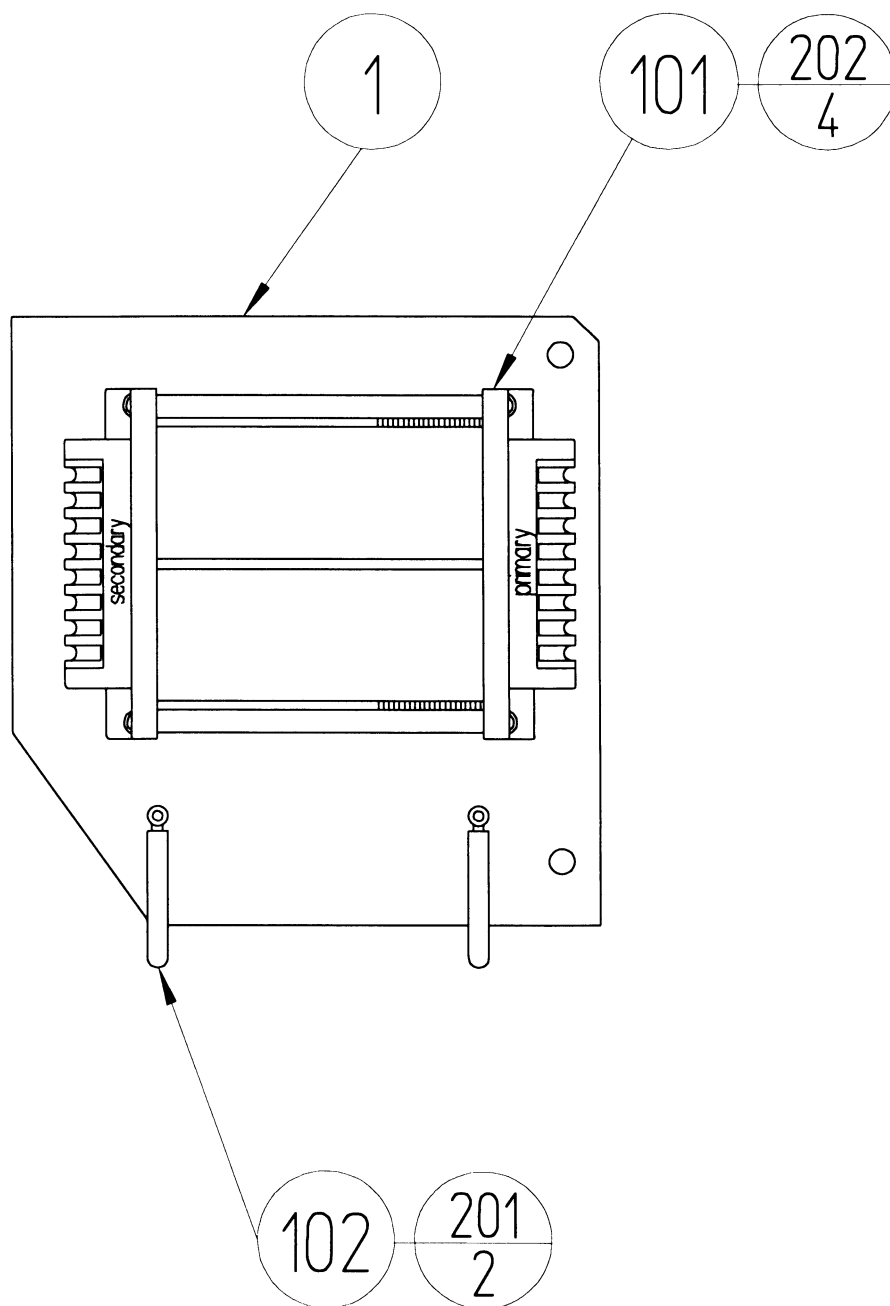


SCREW FASTENING TORQUE TO BE

②① SCREW 0.7 N•m

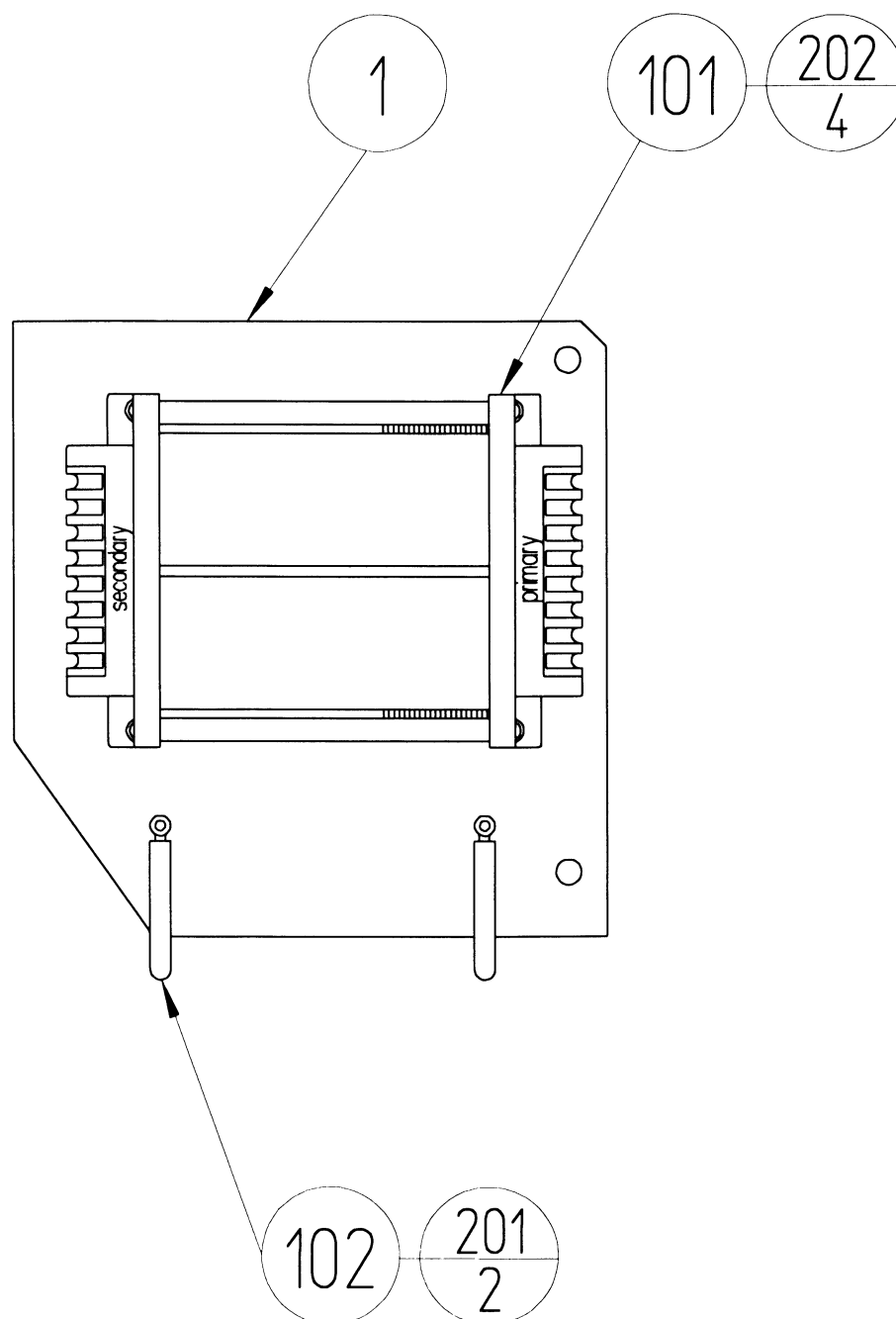
ITEM NO.	PART NO.	DESCRIPTION
1	HOD-1361	PIPE R
2	SPY-1161	GUARD PLATE R
3	HOD-0004	PLATE HOLDER
101	601-6076	LEG ADJUSTER 32
201	000-T00412-0B	M SCR TH BLK M4 X 12
202	068-441616-0B	FLT WSHR BLK 4.4-16 X 1.6
203	050-C00400-3B	CAP NUT TYPE3 BLK M4

②② ASSY XFNR 100V AREA (SMB-4100)



ITEM NO.	PART NO.	DESCRIPTION
1	FRQ-4101	PWR SPLY BASE
101	560-5384	XFMR 100-120V 100V 10A WB
102	280-5207	HARNESS LUG CC-1005
201	011-T03512	TAP SCR TH 3.5 X 12
202	000-P00516-W	M SCR PH W/FS M5 X 16
301	SMB-60052	WIRE HARN XFMR IN
302	SMB-60053	WIRE HARN XFMR OUT

②③ ASSY XFMR 200V AREA (SMB-4200)



ITEM NO.	PART NO.	DESCRIPTION
1	FRQ-4101	PWR SPLY BASE
101	560-5377	PWR XFMR 200-240V 100V10A CE
102	280-5207	HARNESS LUG CC-1005
201	011-T03512	TAP SCR TH 3.5 X 12
202	000-P00516-W	M SCR PH W/FS M5 X 16
301	SMB-60052	WIRE HARN XFMR IN
302	SMB-60053	WIRE HARN XFMR OUT

19. WIRE COLOR CODE TABLE

THE WIRE COLOR CODE is as follow:

A	PINK
B	SKY BLUE
C	BROWN
D	PURPLE
E	LIGHT GREEN

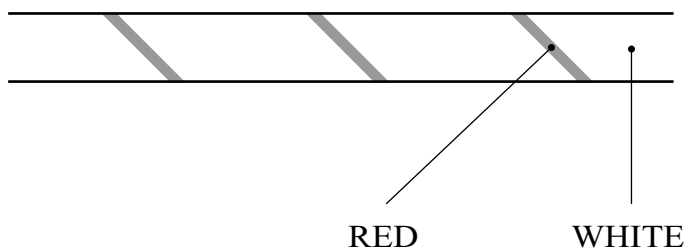
Wires other than those of any of the above 5 single colors will be displayed by 2 alphanumeric characters.

1	RED
2	BLUE
3	YELLOW
4	GREEN
5	WHITE
7	ORANGE
8	BLACK
9	GRAY

If the right-hand side numeral of the code is 0, then the wire will be of a single color shown by the left-hand side numeral (see the above).

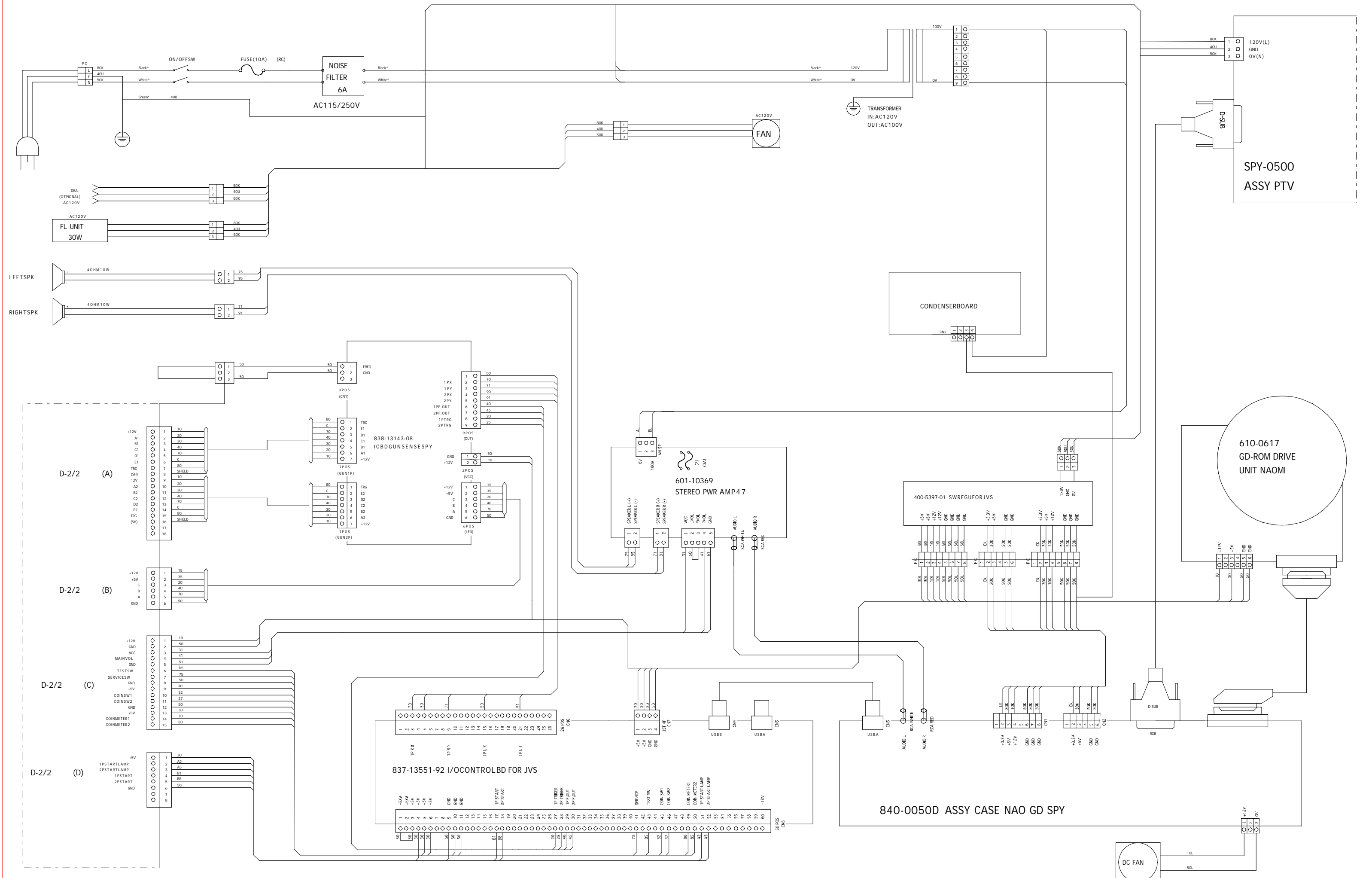
Note 1: If the right-hand side alphanumeric is not 0, that particular wire has a spiral color code. The left-hand side character shows the base color and the right-hand side one, the spiral color.

<Example> 51 WHITE / RED



Note 2: The character following the wire color code indicates the size of the wire.

U:	AWG16
K:	AWG18
L:	AWG20
None:	AWG22



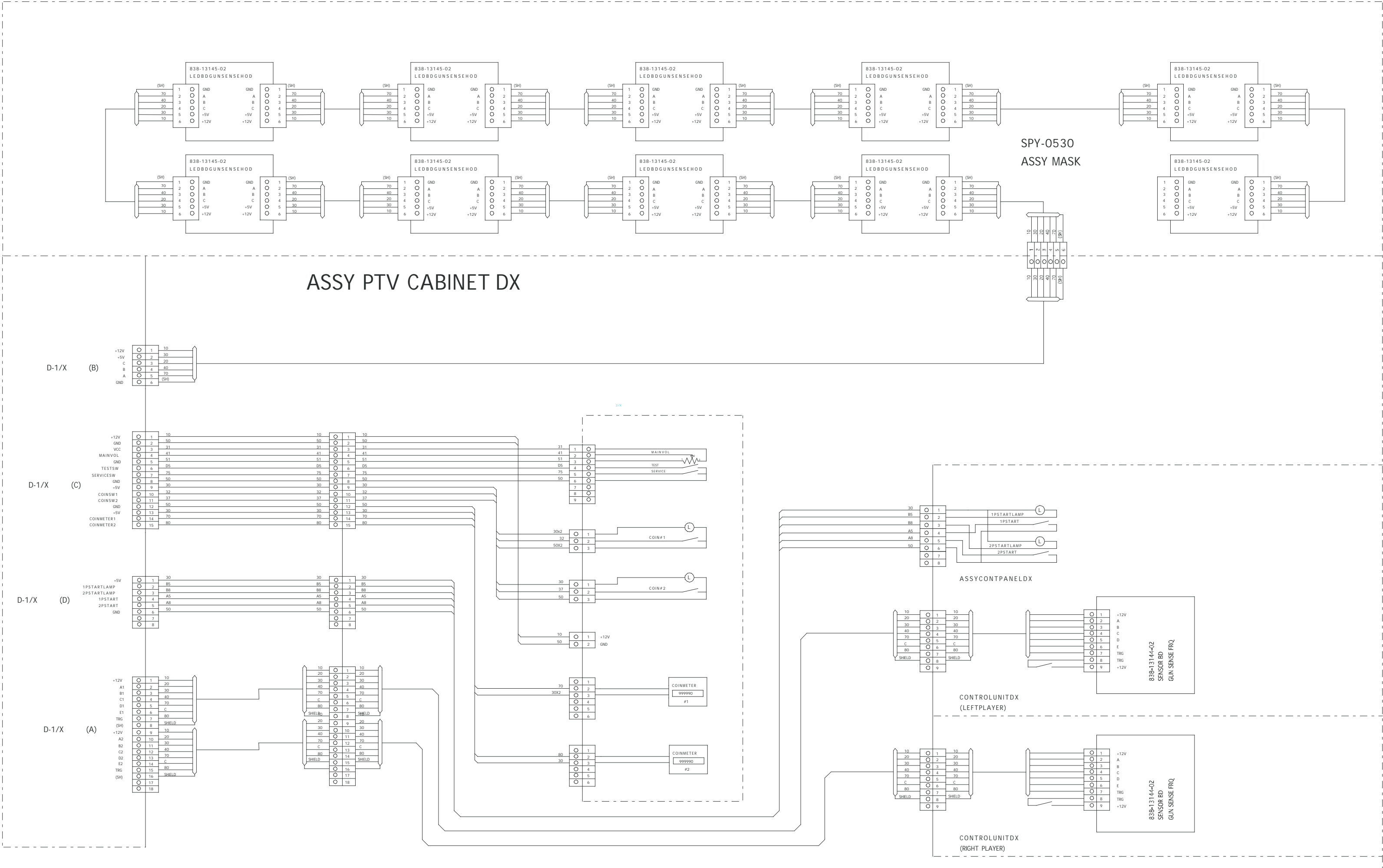
8	BLACK	D	LIGHTGREEN		
7	ORANGE	D	PURPLE	43	EARTH/WIRE
5	WHITE	C	BROWN	U	AWG16UL1015
4	GREEN	B	SKYBLUE	K	AWG18UL1015
3	YELLOW	A	PRK	L	AWG20UL1007
2	BLUE	A	GRAY		
1	GRAY				

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DATE:	01-06-01		TITLE:	WIRING DIAGRAM		



8	BLACK			
7	ORANGE	E	LIGHTGREEN	
5	WHITE	D	PURPLE	43
4	GREEN	C	BROWN	U
3	YELLOW	B	SKYBLUE	K
2	BLUE	A	PINK	L
1	GRAY	9	GRAY	
WIRECOLOR				
				AWG22UL1007

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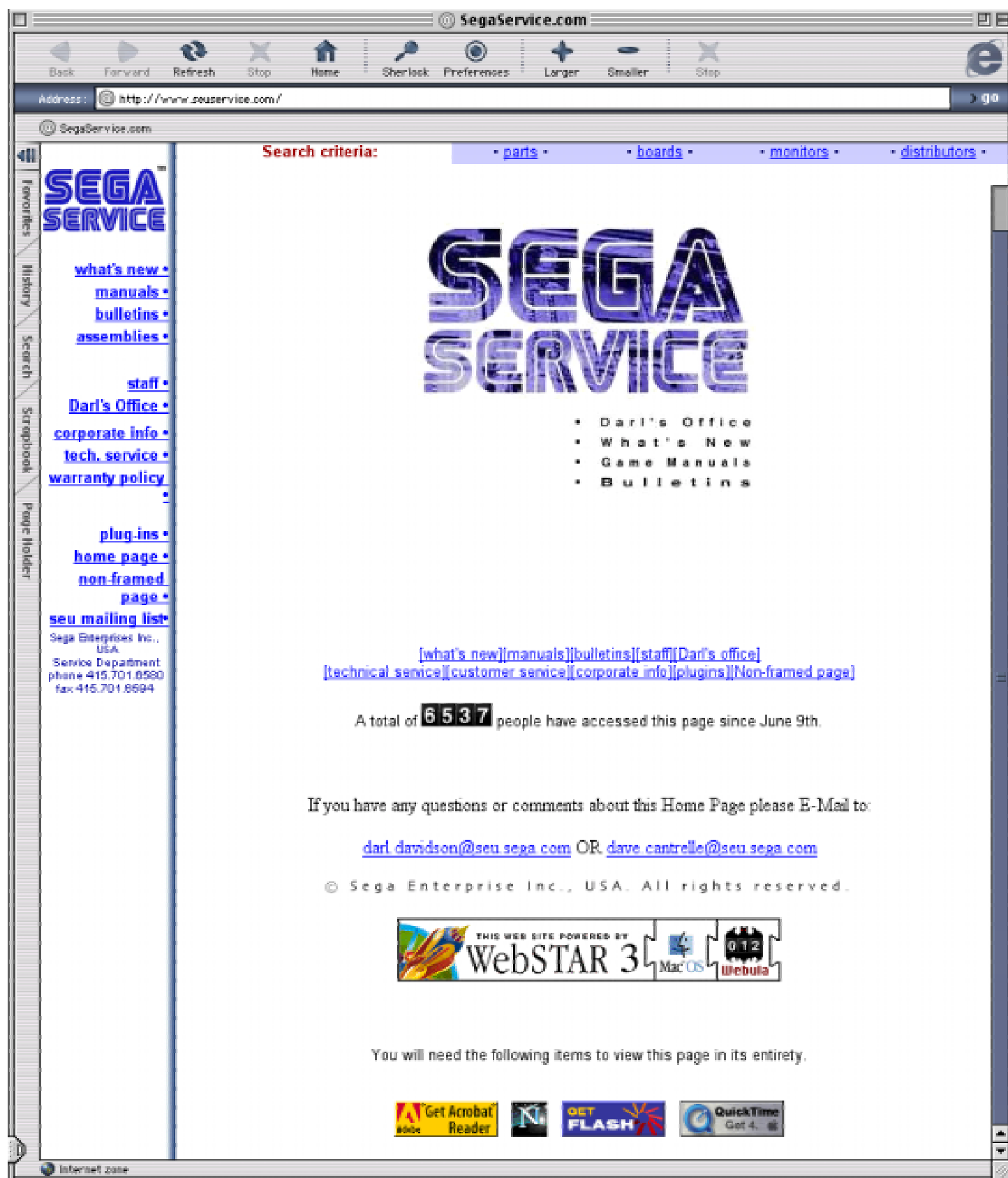
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